

FM 55-31

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FM 55-31

FIELD MANUAL

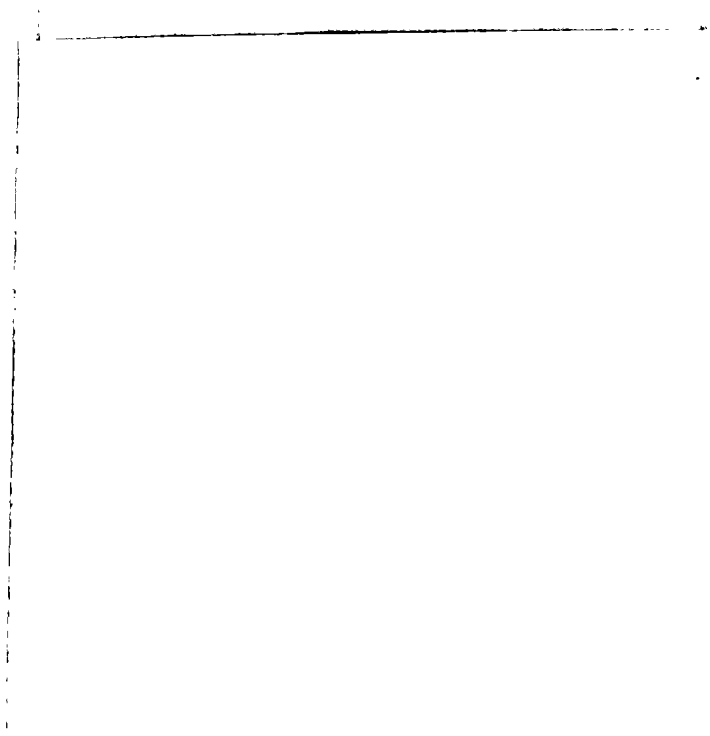
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ARMY MOTOR TRANSPORT UNIT

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HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1972



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FOREWORD

This manual contains both doctrinal and procedural guidance for the administration and operation of motor transport units to provide the man-on-the-ground with the know-how to perform his military duties.

Although the material contained herein is of primary interest to personnel assigned to motor transport units, particularly at company level, it is also of value to all personnel whose duties embrace motor transport matters.

In addition to discussing those mission functions peculiar to motor transport units, this manual provides guidance in nonmission functions such as training, personnel management and administration, security and defense, and mess and supply management. Further, it contains checklists, helpful hints, and guidelines, based on knowledge and experience gained in the field, which are offered as aids to facilitate the training and development of motor transport units.



FIELD MANUAL }
No. 55-31

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 1 June 1972

ARMY MOTOR TRANSPORT UNITS

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CHAPTER 1

INTRODUCTION

1-1. Purpose and Scope

a. This manual is a reference designed primarily for use by personnel assigned to motor transport units; however, it contains material of general interest to all individuals concerned with motor transport functions. It is intended to acquaint personnel with the various types of motor transport units in the motor transport service and to provide information to facilitate the training and development of motor transport units at all echelons, with particular emphasis being directed toward the company level.

(1) It prescribes motor transport unit organization and operational doctrine and discusses the mission, capabilities, and employment of the types of motor transport units.

(2) It outlines the various functions performed by motor transport organizations, discusses the duties of key personnel at unit and higher levels, and offers techniques and procedures for the administration and operation of motor transport units.

(3) This manual should be used in conjunction with FM 55-30, and TM 55-310. FM 55-30 discusses in detail the operations in which motor transport units are employed and provides an in-depth coverage of planning for motor movements. TM 55-310 contains supplemental "how-to-do-it" information, covering such subjects as selection and defense of bivouac areas, safety, loads and loading, and operational records and reports. Further, TM 55-311, 55-312, and 55-604, offer commanders additional guidance in motor transport unit operations.

b. This manual is applicable without modification to general, limited, and cold war.

c. Linear distances in this manual are shown in both US standard units of length and metric equivalents. Appendix B is a metric conversion table.

1-2. Recommended Changes

Users of this manual are encouraged to submit

recommended changes and comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons will be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded direct to the Commanding Officer, US Army Combat Developments Command Transportation Agency, Fort Eustis, Virginia 23604. Originators of proposed changes which would constitute a significant modification of approved Army doctrine may send an information copy through command channels to the Commanding General, US Army Combat Developments Command, Fort Belvoir, Virginia 22060, to facilitate review and followup.

1-3. International Standardization Agreements

This manual is in consonance with certain international standardization agreements which are identified by type and agreement identification number at the beginning of each appropriate chapter in the manual.

a. DA Pamphlet 310-35 lists all standardization agreements, both of a materiel and a nonmateriel nature, binding upon the United States. The several types of nonmateriel agreements applicable to military operations which may affect motor transport operations are as follows:

(1) *STANAG (STANdardization AGreement)*: Applicable to the nations of the North Atlantic Treaty Organization (NATO).

(2) *CENTO STANAG (STANdardization AGreement)*: Applicable to nations of the Central Treaty Organization (CENTO).

(3) *SEASTAG (SouthEast Asia STandardization Agreement)*: Applicable to nations of the Southeast Asia Treaty Organization (SEATO).

(4) *SOLOG (Standardization of Operations and LOGistics)*: A nonmateriel agreement among the Armies of the United States, the United King-

dom, Canada, and Australia (the ABCA nations). The term SOLOG now applies only to those non-materiel agreements which were ratified and published before 20 September 1967 ((5) below).

(5) *QSTAG (Quadripartite Standardization Agreement)*: Materiel and nonmateriel agreements among the Armies of the ABCA nations. The term QSTAG was adopted on 20 September 1967 and applies to all ABCA agreements (formerly designated as SOLOG's) ratified and published subsequent to that date ((4) above).

b. US military operations are governed by these various agreements when US forces are employed within the geographical areas over which treaty organizations exercise jurisdiction; thus while operating in a European country which is a member of NATO, US forces comply with the provisions of applicable STANAG's (a(1) above).

c. In a number of instances the provisions of certain agreements have been accepted as doctrine by the United States and incorporated into appropriate training and field manuals. A prime example of this is the use of the metric system to indicate distances. This accepted and published doctrine then becomes applicable to Armywide operations.

d. Although standardization agreements do not apply to military operations in the continental United States (CONUS), those which may concern a unit—in this case, those with a motor transport impact—must be considered in training and operational phases to permit military personnel to become acquainted with their provisions. This is particularly true for units or groups of personnel earmarked for oversea assignment.

e. To minimize operational differences in the various types of standardization agreements of the several treaty organizations, it is practice for one organization to accept and publish under its auspices an agreement that has been ratified and published by another treaty organization. For instance, all or any part of a STANAG may be adopted by the SEATO organization and be incorporated into and published as a SEASTAG. When this occurs, each organization uses the same agreement identification number wherever feasible (DA Pam 310-35).

f. Standardization agreements which are applicable to this manual are as follows:

Title	NATO STANAG	CENTO STANAG	SEATO SEASTAG
Destruction of Military Technical Equipment	2113		2113
Definitions and Regulations for Military Motor Movements by Road	2154	2154	2154

1-4. Tables of Organization and Equipment (TOE)

TOE of the 55-series govern the organization, mission, capabilities, personnel strength, and equipment of motor transport units. Current TOE applicable to the units discussed herein should be used in conjunction with this manual.

a. *TOE Identification*. In this text, TOE are identified by basic number only (for example, TOE 55-17); where appropriate, letter-suffixed tables apply (for example, TOE 55-17G).

b. *TOE Strength Levels*.

(1) Tables of organization and equipment for motor transport units provide for full-strength units (strength level 1) and reduced-strength units (strength levels 2 and 3). Reduced-strength levels 2 and 3 provide for personnel reductions of approximately 10 and 20 percent, respectively; equipment authorizations and unit capabilities are reduced accordingly. Reduced strengths may be prescribed under the following conditions:

- (a) To meet a reduced-manning level.
- (b) When a unit is not expected to operate at its full capabilities for an extended period of time.
- (c) Under any unusual operating circumstance.

(2) Authority for directing reduced-strength operations in CONUS is vested in the army commanders; in oversea areas this authority is vested in the major commander concerned (theater, theater army, independent corps). Only full-strength units are considered in discussions in this manual.

c. *Type B Units*. These are units which are organized and equipped in accordance with the type B strength column of a TOE and which, as a means of conserving US military manpower, are authorized only the minimum number of US military command, supervisory, technical, and maintenance positions required to perform the stated mission of the unit when augmented by available non-United States personnel.

- (1) Generally, motor transport units other

than battalion and higher headquarters and divisional motor transport units are adaptable to organization as type B units (see applicable TOE).

(2) The organizational structure of a type B motor transport unit is identical to that of the full-strength unit.

(3) TOE military personnel authorizations for type B units may be changed by modification TOE (MTOE) to reflect local conditions of employment or to provide for effective accomplishment of the assigned mission.

(4) A comparison of the TOE type B unit strength column with that of the strength level 1 (full strength) column for the unit indicates those positions to be manned by non-US personnel. However, the actual filling of non-US personnel spaces may be influenced by the availability of such non-US personnel, the capabilities and productive efficiency of available personnel, the number of work shifts, and other local conditions (including economic and political).

(5) Employment of non-US personnel in type B units will be in conformity with theater or theater army directives and current security regulations (FM 27-10; DA Pam 690-80).

(6) Language barriers imposed by employment of non-US personnel may be overcome through the assignment to type B units of interpreter and translator teams organized under TOE 30-600.

d. Cadre. A cadre is a nucleus of key personnel required to establish a base for activation of another unit.

(1) The cadre column of the 55-series TOE designates those key personnel required to be available in a unit and, when required, to be provided by that unit to organize and activate a motor transport unit of the same type as the parent unit. A cadre provides the knowledge and know-how required to train and mold a group of fillers or replacements into an efficient company team capable of operating as a unit and accomplishing its assigned mission.

(2) Duty assignments designated for a cadre include such key positions as first sergeant, truckmaster, mess steward, platoon sergeant, and

motor maintenance sergeant. Personnel in key positions must have an understudy so that in the event a unit is called on to provide a cadre it can either provide capable trained cadre personnel who can step into these key positions and properly carry out their duties in a newly activated unit, or it can replace any of its own key personnel who are selected as cadre and can continue to function properly and efficiently (para 9-11).

(3) The provision of a cadre by a unit offers a promotional opportunity to qualified and eligible personnel in that unit, either through manning of key spaces in a cadre by lower grade personnel from the parent unit, or in the filling of vacancies created in the parent unit through loss of key personnel selected as cadre. This matter must be carefully considered by the commander of the unit providing the cadre.

1-5. Categories of Motor Transport Units

Based on their mission and function, the motor transport units of the 55-series TOE are categorized as follows:

a. Command and Supervisory Units. These are the headquarters type units of the motor transport service and include the motor transport brigade, group, and battalion (chap 2).

b. Task Units. These are the operating truck companies of the motor transport service which, under the direction of the appropriate command and supervisory units, provide the motor transport support necessary to meet the requirements generated by the forces in the field (chap 3).

c. Divisional Units. These are the motor transport units that are organic to the type army divisions and that provide division motor transport support (chap 4).

d. Cellular Units. These are the teams and detachments established in the 55-series, transportation service organization, TOE which are used to augment and supplement motor transport units and operations. Also included in this category are those detachments in the 29-series, composite service organization, TOE which may be used to support motor transport units and organizations (chap 5).



CHAPTER 2

MOTOR TRANSPORT COMMAND AND SUPERVISORY UNITS

Section I. GENERAL

2-1. General

a. In performing the motor transport function in a theater of operations, all motor transport units assigned to the theater, except those companies organic to divisions, are organized into a coordinated theaterwide motor transport service. This service provides the movement by motor transport of personnel and cargo from points of entry into the theater as far forward as the division, and to intermediate destinations within the theater. This motor transport effort is guided and coordinated by the motor transport command and supervisory units assigned to the theater forces and employed at various command levels (see

chapter 6 for a further discussion of the organization for motor transport service in a theater).

b. The command echelons of the motor transport command and supervisory units follow the standard Army command pattern; the battalion is the lowest level, the group is the intermediate echelon, and the brigade is the senior unit. In normal operations battalions are attached to groups and groups are attached to the brigade; however, both group and battalion headquarters are organized and staffed so that they may function as the highest motor transport command echelon in a particular field organization (chap 6).

Section II. HEADQUARTERS AND HEADQUARTERS COMPANY, TRANSPORTATION MOTOR TRANSPORT BRIGADE (TOE 55-11)

2-2. Organization

The transportation motor transport brigade is organized along the lines of the conventional general staff. It consists of a command section and a chief of staff section. Command of the brigade is vested in the command section; the administrative and operational functions are contained within the various offices and staff sections of the chief of staff section, including the headquarters company which is administered through the office of the headquarters commandant (fig 2-1).

ing three to seven motor transport groups and assigned or attached supporting units of other administrative or technical services.

2-5. Functions

The command headquarters consists of the commander and a deputy commander. The staff sections of the motor transport brigade assist the commander in formulating, interpreting, and disseminating policy; in supervising and directing operations including security during operational movements; and in other activities of the headquarters as required.

2-3. Mission

The mission of headquarters and headquarters company, transportation motor transport brigade, is to command, plan, supervise, coordinate, and control the activities of transportation motor transport groups and other assigned or attached units.

a. Operational functions of the motor transport brigade encompass all motor activities of the headquarters served. These are primarily planning and supervisory functions.

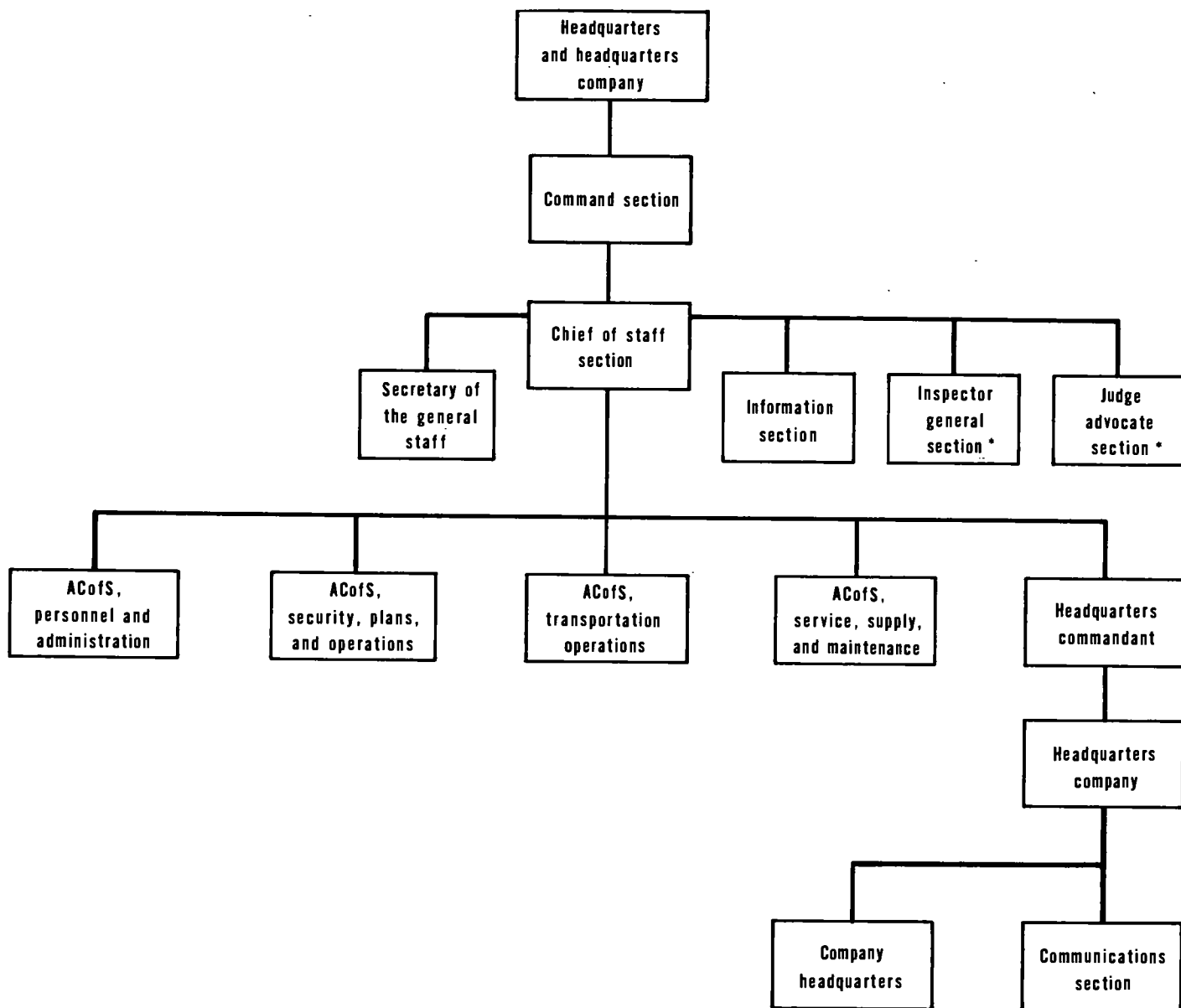
(1) Planning functions include the following:

(a) Evaluation of motor transport requirements in tactical and logistic support of the forces involved.

(b) Study of existing terrain, roadway,

2-4. Capabilities

The headquarters and headquarters company, motor transport brigade, is capable of command-



*Also a member of the commander's personal staff.

Figure 2-1. Organizational chart, headquarters and headquarters company, transportation motor transport brigade (TOE 55-11).

enemy situation, and other conditions affecting road movement.

(c) Preparation of recommended policies dealing with motor transport for inclusion in the standing operating procedure of the headquarters to which assigned.

(d) Determination of motor transport units required to perform the motor transport mission.

(e) Provision of military personnel and equipment, programing of training activities, and establishment of procedures for operation, maintenance, supply, base defense, and local security.

(f) Coordination with the appropriate civil affairs unit for provision of civilian personnel and commercial transport equipment, programing of training, and establishment of procedures for operation.

(2) Supervisory functions include directing the execution of plans and assuring that they are adequately carried out. Such work is accomplished through the following:

(a) Issuance of orders and pertinent directives to subordinate commands.

(b) Constant attention to the progress of movements and other mission assignments.

(c) Close liaison with units and installations serving the motor transport command and being served by it.

(d) Inspection of various activities by the responsible sections of the headquarters to assure that subordinate units function properly.

2-6. Employment

The motor transport brigade is the senior motor transport unit. It is employed in the communications zone when more than two motor transport groups are required. The motor transport brigade is normally assigned to the transportation command (TRANSCOM) under the theater army support command (TASCOM).

Section III. HEADQUARTERS AND HEADQUARTERS DETACHMENT, TRANSPORTATION MOTOR TRANSPORT GROUP (TOE 55-12)

2-7. Organization

The transportation motor transport group consists of a group headquarters and a headquarters detachment. Command of the group is vested in

the group headquarters. The administrative and operational functions of the group, including those of the detachment headquarters, are performed in the various sections within the headquarters detachment (fig 2-2).

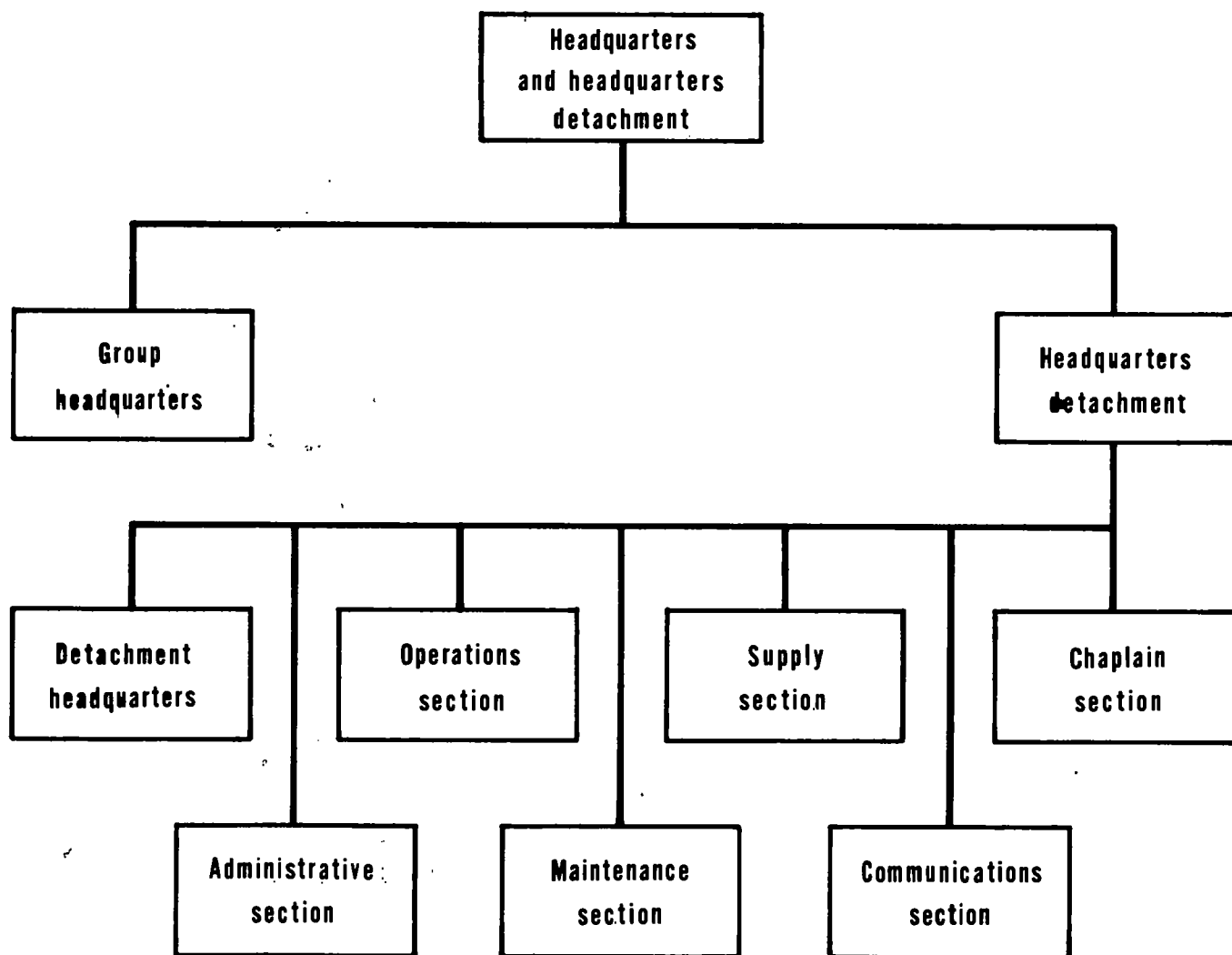


Figure 2-2. Organizational chart, headquarters and headquarters detachment, transportation motor transport group (TOE 55-12).

2-8. Mission

The mission of headquarters and headquarters detachment, transportation motor transport group, is to provide command, staff planning, and control of operations for transportation motor transport battalions and attached units.

2-9. Capabilities

The headquarters and headquarters detachment, motor transport group, is capable of commanding three to seven motor transport battalions and attached units. At full strength it has the following capabilities:

- a. Supervising and assisting subordinate units in administrative and personnel matters.
- b. Planning operations for the group, to include provision of security elements during operations.
- c. Coordinating and supervising operations of subordinate units, including unit movements.
- d. Supervising and assisting subordinate unit supply and maintenance activities, including real estate matters.
- e. Operating the group electrical communications system, both wire and radio, to subordinate and superior echelons.
- f. Providing organizational maintenance on organic vehicles and communications equipment.
- g. Planning for base defense and local area security.

2-10. Functions

a. Group headquarters sections are organized within the headquarters detachment. These sections are under appropriate staff officers assigned to group headquarters. The group headquarters is under the group commander, who is assisted by the executive officer. The staff sections of the motor transport group assist the commander in formulating, interpreting, and disseminating policy and in supervising and directing operations.

b. Functions of the headquarters and headquarters detachment, motor transport group, include planning, coordinating, and supervising assigned or attached units engaged in port or beach clearance, local or line hauls, and other motor transport missions.

- (1) The group headquarters plans for the

most economical and efficient use of motor transport equipment assigned to subordinate units. It plans for the most complete and effective use of the highway network. Such plans normally culminate in an operational analysis consisting of a tabulation of tasks for subordinate units, designated routings for supply hauls if necessary, and road movement tables and graphs that fit the schedules of individual units in the overall operation and traffic plan. These procedures form the basis for orders issued to operating units.

(2) In fitting capabilities of assigned units to operational requirements, the group headquarters coordinates with higher headquarters and with the following:

- (a) The activity providing direct support for supply and maintenance of equipment.
- (b) The US Army Strategic Communications Command (Theater) in establishing communications.
- (c) The military police support unit in traffic control matters.
- (d) The engineer command for route information and road construction and maintenance.
- (e) All supporting services in regard to location of depots, supply points, pipeline terminals, access roads to installations, and loading and unloading facilities and capabilities at supply installations.
- (f) Civil affairs support units for required civilian personnel, facilities, and materiel.

(3) The group headquarters has two responsibilities for training: first, assigned personnel are trained to perform their individual tasks, and second, the group supervises training of attached units, including the establishment of training facilities.

2-11. Employment

The headquarters and headquarters detachment, motor transport group, is a command unit for motor transport operations. When three or more groups are required, they normally operate under a motor transport brigade or transportation brigade. A group headquarters may be assigned responsibility for an entire line haul or a segment thereof. In the absence of a motor transport brigade (or transportation brigade) the motor transport group is normally assigned to the transportation command (TRANSCOM) under the theater army support command (TASCOM).

Section IV. HEADQUARTERS AND HEADQUARTERS DETACHMENT, TRANSPORTATION MOTOR TRANSPORT BATTALION (TOE 55-16)

2-12. Organization

The organization of the transportation motor transport battalion is identical to that of the group except that the battalion has no chaplain section; the chaplain is assigned to the battalion headquarters and his assistant to the administration-personnel section. Functionally, the battalion administration section also handles personnel matters, while at group level this function is performed by the supporting personnel service company. The command echelon of the battalion is contained in the battalion headquarters. The administrative and operational functions of the battalion are accomplished in the various sections of the headquarters detachment (fig 2-3). The command and supervision echelon of the headquarters detachment is contained in the battalion headquarters (the S-1 (captain), commands the headquarters detachment; the sergeant major functions as the detachment first sergeant).

2-13. Mission

The mission of the headquarters and headquarters detachment, transportation motor transport battalion, is to provide command and supervision for units engaged in all types of motor transport such as direct support of tactical units, port or

beach clearance, depot and terminal operations, and line hauls.

2-14. Capabilities

The headquarters and headquarters detachment, motor transport battalion, is capable of commanding, supervising, and providing administrative support for three to seven transportation truck and/or tracked vehicle companies and attached or supporting services.

2-15. Functions

a. The battalion headquarters is the command group and includes the commander, his executive and staff officers, and the sergeant major. The headquarters detachment is the operational group and includes the detachment headquarters and the administration and personnel, operations, supply, maintenance, and communications sections. The headquarters detachment may be further augmented for personnel administration purposes. The battalion has no capability to provide its own mess. In operations, the battalion normally sets up with, or in the immediate vicinity of, one of its attached truck companies and depends on that unit for messing; the first cook in the battalion headquarters detachment is then detailed to duty with that supporting mess.

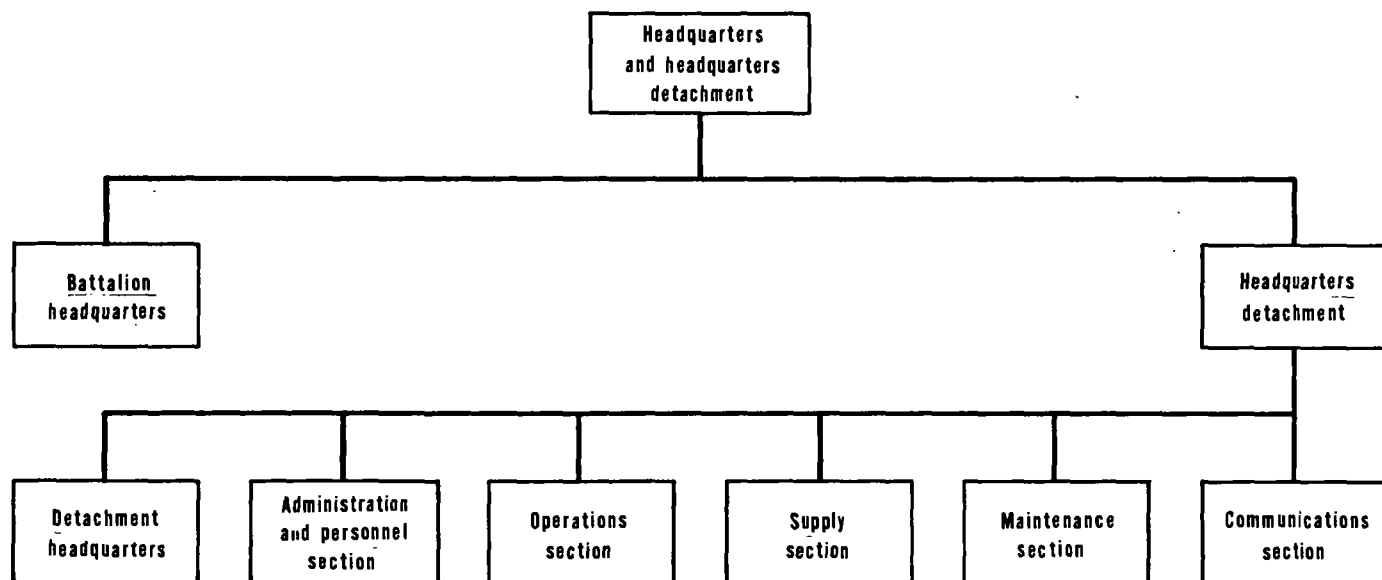


Figure 2-3. Organizational chart, headquarters and headquarters detachment, transportation motor transport battalion (TOE 55-16).

b. The headquarters and headquarters detachment, motor transport battalion, supervises, coordinates, and assists subordinate units in administrative, supply, maintenance, training, and communications matters. It plans and schedules tasks to conform with the overall movement program and with operational requirements. In accomplishing the motor transport mission, it—

(1) Establishes basic policies and procedures for the operation of the motor transport capability of the battalion in consonance with the policy of the higher command.

(2) Develops and disseminates standing operating procedures governing the operation and performance of subordinate units, to include local area security.

(3) Receives approved requests for motor transport from higher headquarters and plans and assigns tasks to subordinate task units based on current capabilities of those units.

(4) Coordinates and supervises the performance of operational assignments by subordinate task units, to include provision of security elements during operational missions.

(5) Provides appropriate support to attached support units.

c. A principal type of operation performed by the headquarters and headquarters detachment, motor transport battalion, is the operation of truck terminals or trailer transfer points, or both; augmentation as required (chap 5) is provided by appropriate teams from TOE 55-540.

d. A second common operation which may be performed by the headquarters and headquarters detachment, motor transport battalion, is the operation of a driver training and testing section to train and qualify US personnel, foreign nationals, and indigenous personnel assigned to or employed by battalion and subordinate task units, in the proper and safe operation of military vehicles.

2-16. Employment

The headquarters and headquarters detachment, motor transport battalion, is employed to provide centralized command, coordination, and supervision to a number of operating units in support of a single command, installation, or area. The type and number of companies attached to the battalion are varied to meet the requirements of the operation(s) in which the battalion is engaged.

CHAPTER 3

MOTOR TRANSPORT TASK UNITS

Section I. GENERAL

3-1. General

a. The motor transport task units are the workhorses of the motor transport service. They are the companies which provide the vehicles to meet the requirements for movement by motor of personnel and cargo as generated by the forces in the field.

b. Basically all truck companies are administered to and are operated in the same manner. However, to provide the fullest capability to a transport service, the types of task vehicles authorized and unit capabilities vary in the several types of table of organization and equipment (TOE) motor transport companies.

3-2. Characteristics of Vehicular Equipment

Vehicles authorized for motor transport task units vary in type, design, and capabilities according to the unit employment and anticipated operational environment. Although tracked vehicles may be authorized under certain conditions, transportation truck units are normally equipped with wheeled vehicles (para 3-3). The selection of task units to provide the proper task equipment and mix of vehicles by type to meet operational requirements is made on the basis of many factors of varying importance. This selection is made to some extent at all levels of command—from the assignment of units to a field force to the selection of a single vehicle for a specific task. Factors to be considered in such selection include but are not limited to the following:

a. Environmental factors of climate, weather, and terrain.

b. Operational factors such as the road net and highway surfaces or trafficability.

c. Tactical considerations, including both the type and intensity of possible hostile interference.

d. Tonnage requirements, type of cargo, and type or length of hauls.

e. Vehicle availability, by types.

f. Comparative manpower requirements.

g. Economy of operation.

3-3. Types of Task Vehicle Equipment

The types of vehicles authorized by TOE to the task units (truck companies) of the motor transport service for employment in logistic support operations are as follows:

Note. TOE authorize substitution of vehicle types within class (light and medium) dependent upon unit mission and assignment.

a. *Cargo Truck, 2 1/2-Ton.* The 2 1/2-ton cargo truck is a standard military transport vehicle designed to carry cargo, personnel, or equipment; this truck comes in both the rigid-side and drop-side models. It is normally employed in local (short) hauls for support of interrelated activities and for distribution of supplies to using units, but it is also suitable for long or line hauls when highways are poor or when offroad operation may be required. It is more rugged than commercial type vehicles of comparable capacity and has additional offroad capability provided by all-wheel drive. Its onroad rated capacity is 5 tons; for offroad operation, the load should not exceed 2 1/2 tons. Troop seats are provided in the cargo bed, giving the vehicle a troop carrying capability of 20 combat-equipped soldiers for a short haul; for longer hauls this is normally reduced to 16 to allow for greater comfort of the troops being transported. The truck is designed to tow the 1 1/2-ton cargo trailer, which may be loaded to a maximum of 2 1/2 tons. However, the trailers loaded to the maximum should not be towed in offroad operations. When employed in troop movement, the 1 1/2-ton cargo trailer is normally used to carry baggage and equipment of the transported troops. The increased cargo capability offered through the use of 1 1/2-ton trailers must be weighed against the loss of maneuverability in close or restricted areas or the reduction of cross-

country capabilities by trucks towing trailers, to determine the suitability of the use of trailers in a given operation.

b. Cargo Truck, 5-Ton. In size, design, and purpose, the 5-ton cargo truck is similar to the 2 1/2-ton truck, but the 5-ton truck is built with sturdier components throughout to carry heavier cargo loads and high-density cargo; it also comes in both the rigid-side and drop-side models. Its onroad rated capacity is 10 tons; for offroad operation the load should not exceed 5 tons. It was originally assigned to transportation light truck companies primarily to meet ammunition transportation requirements; however, based upon operational reports—lessons learned (ORLL) and commanders reports, the 5-ton cargo truck is preferable to the 2 1/2-ton truck for use in many local haul transport missions. The recent change to the drop-side version of this vehicle has further increased this truck's utility by simplifying loading and unloading procedures. Troop carrying capacity for this vehicle on short hauls is the same as for the 2 1/2-ton truck; on long hauls of personnel its capacity is only reduced to 18.

c. Semitrailer, Stake, 12-Ton.

(1) The 12-ton, four-wheel, cargo semitrailer is designed to be towed by the 5-ton truck tractor equipped with a fifth wheel. Highway speeds and offroad capabilities are therefore almost completely dependent on the power and traction of the tractor. The semitrailer is designed to be towed over good hard-surfaced roads at speeds as high as 50 miles (80 kilometers) per hour, with loads up to 18 tons; it can be towed over unimproved roads and trails or over open rolling terrain at speeds as high as 30 miles (48 kilometers) per hour, with loads up to 12 tons. In planning for employment of this equipment, the truck tractor and semitrailer must be considered as a combination vehicle.

(2) This combination vehicle provides the most economical means of motor transport for long hauls, particularly for trailer relay operations. However, its greater cargo space and load capacity and the added flexibility and economy gained through the use of semitrailers dictate that, when conditions permit, this vehicle be used in any motor transport operation where its use would prove more economical than the smaller (2 1/2- and 5-ton) "straight" trucks. Smaller vehicles, originally employed in terminals, depot complexes, or other logistic installations where war damage, limited space, poor roads, or other traffic restrictions preclude the use of larger vehi-

cles, should be replaced with semitrailer combinations as these installations are rehabilitated or reconstructed.

(3) The 12-ton stake and platform semitrailer is not equipped with troop seats and is not normally used to transport troops. If the situation demands that it be so employed, its carrying capacity is 50 *seated* troops (sitting on the cargo bed or on locally fabricated troop seats).

d. Semitrailer, Low Bed, Heavy Equipment Transporter, 60-Ton. The 60-ton heavy equipment transporter semitrailer is designed primarily for onroad transportation of the main battle tank and other heavy, oversize, or tracked combat vehicles. It may also be used to transport heavy engineer equipment and bulky, overweight, or outsize cargo. A 10-ton truck tractor (or larger) is used as the towing vehicle. Towed speeds are limited to 26 miles (42 kilometers) per hour on improved roads; offroad operation is not recommended. Because of the large size and weight of these vehicles, careful coordination through appropriate traffic headquarters is required for highway movement.

e. Gasoline Tank Semitrailer, 5,000-Gallon. The 5,000-gallon gasoline tank semitrailer is designed for transportation of bulk fuel. Like the cargo semitrailer, it is towed by the 5-ton tractor and can be towed over improved roads at speeds up to 50 miles (80 kilometers) per hour while carrying its full rated load. It can be towed at reduced speeds—up to 25 miles (40 kilometers) per hour—over unimproved roads and trails of good trafficability when loaded with 3,000 gallons of bulk fuel. Bulk handling of fuel saves time and manpower, and this method of transporting and dispensing fuels is used whenever the situation permits. Fuel transported in transportation motor transport gasoline tank semitrailers may be delivered to units on a trailer-exchange basis, transferred directly to user tank vehicles, or transferred to supply point tanks. In emergencies, the 5,000-gallon tank semitrailers may be used as mobile storage facilities to augment supply point stocks. In addition, some models may be used as mobile filling stations.

f. Semitrailer, Refrigerator Van, 7 1/2-Ton. The refrigerator van is designed for moving perishable cargo or cargo requiring controlled temperatures. It is designed to be towed by the 5-ton tractor and can be towed over improved roads at speeds up to 50 miles (80 kilometers) per hour while carrying its full rated load. It can be towed at reduced speeds—up to 25 miles (40

kilometers) per hour—over unimproved roads and trails of good trafficability while carrying a cargo load of up to 4 1/2 tons.

3-4. Task Vehicle Cargo Bed Dimensions and Cubic Capacity

As an aid in planning motor transport operations, table 3-1 offers approximate cargo bed dimen-

sions and cargo bed capacities in cubic feet for the three general types of cargo task vehicles authorized in transportation truck companies. Since there are various models of these types of vehicles, any of which may be issued to truck units, reference should be made to TM 9-500 or the appropriate vehicle technical manual if exact dimensions and capacities of specific vehicle models are desired.

Table 3-1. Cargo Bed Data for Three General Types of Cargo Task Vehicles, Transportation Truck Companies

Type vehicle	Cargo bed dimensions			Cubic capacity (cubic feet)
	Length (inches)	Width (inches)	Height (inches)	
Truck, cargo, 2 1/2-ton	138	88	50	408
Truck, cargo, 5-ton	168	88	50	550
Semitrailer, 12-ton stake and platform	335	88	60	830

Note. Specifications are approximate by general type; for definite information on specific vehicle models, see TM 9-500, or the appropriate vehicle TM.

Section II. TRANSPORTATION LIGHT TRUCK COMPANY (2 1/2-TON, 5-TON) (TOE 55-17)

3-5. Organization

The transportation light truck company consists of a company headquarters, a maintenance section, and three truck platoons. Each truck platoon is organized with a platoon headquarters and two truck squads (fig 3-1).

3-6. Equipment

Task equipment for the transportation light truck company consists of sixty trucks (either 2 1/2-ton or 5-ton), six of which are equipped with winches, and sixty 1 1/2-ton trailers. The company is also authorized tool sets and equipment adequate for performing organizational maintenance, communications equipment for command and control, weapons for defense and security, and mess equipment and other standard items of issue for administration and operation of the unit in the field.

3-7. Capabilities

For planning purposes, and with the unit at full strength, the capabilities of the transportation light truck company are figured on the basis of 75-percent vehicle availability, four round trips daily for local hauls or two round trips daily for line hauls, and 4 short tons (STON) of cargo per 2 1/2-ton truck or 6 STON per 5-ton truck. Passenger capacities are figured at 20 per truck for both 2 1/2-ton and 5-ton vehicles for short hauls or, for long hauls, 16 per 2 1/2-ton truck and 18 per 5-ton truck. Actual vehicle availability varies

with age and condition of assigned task vehicles, state of training of the unit, and effectiveness of the maintenance program. The number of trips daily varies with changes in the operational environment. Other factors influencing total daily lift capability of the company are average cargo density, degree of cargo space utilization, availability of materials handling equipment at loading and unloading points, and availability of vehicle fuels and lubricants.

3-8. Employment

In a theater of operations, light truck companies are employed to fill commitments for movement of troops within the army area and for local haul of supplies; they also have the same missions in the communications zone. In addition, they provide a general hauling service, as required, for terminal clearance, depot operations, and installation support. Light truck companies provide flexibility in the choice of vehicles for specific tasks. Employment of 5-ton trucks is normally restricted to transporting high-density cargo such as ammunition, although personnel may be carried when necessary. The 2 1/2-ton trucks are used in transporting rations and other low-density cargo and in carrying personnel as required. The offroad capability of both types of light trucks may influence their selection over the more economical, though less mobile, medium trucks.

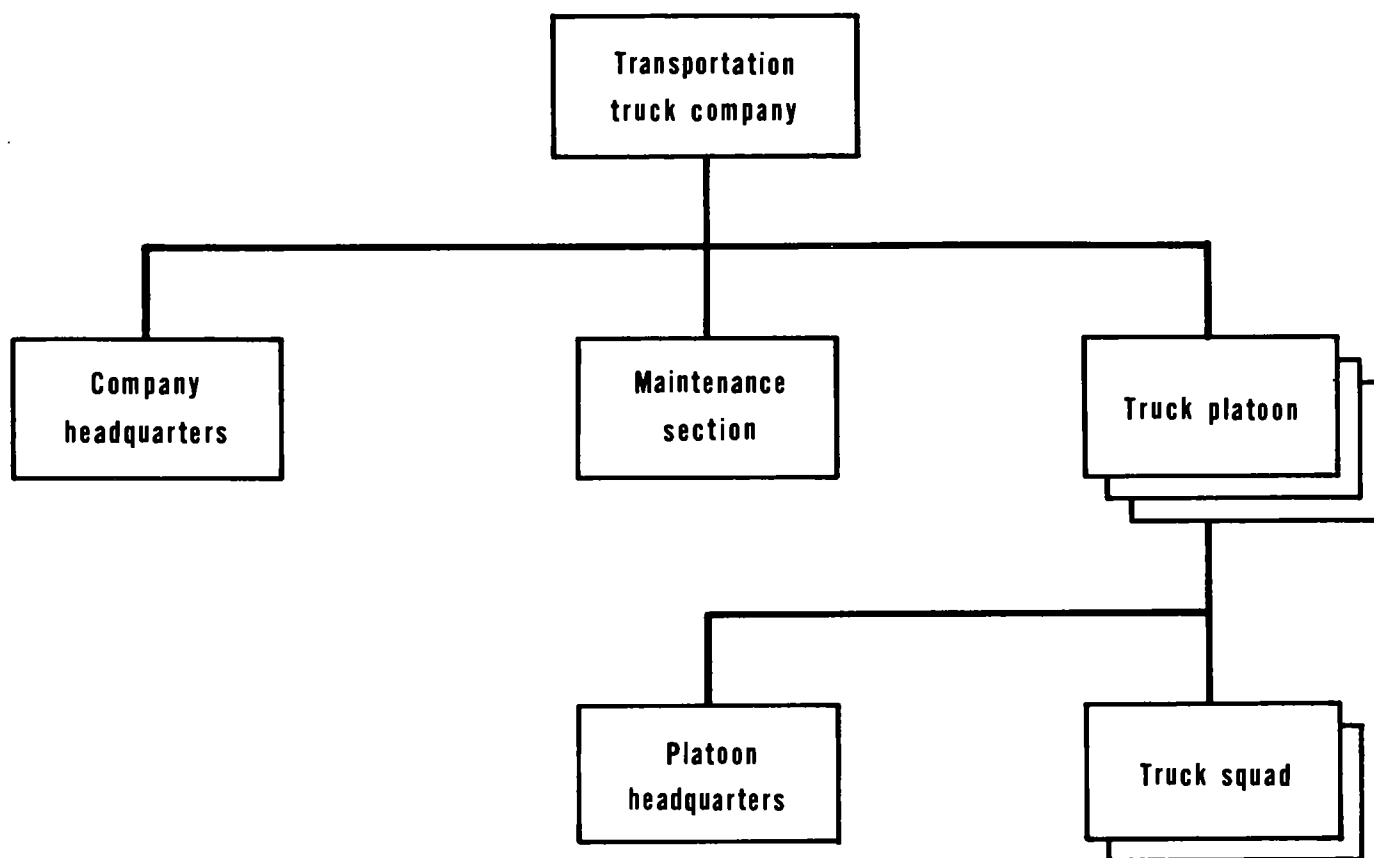


Figure 3-1. Organizational chart, transportation light truck company (TOE 55-17), transportation medium truck company (TOE 55-18), transportation heavy truck company (TOE 55-28).

Section III. TRANSPORTATION MEDIUM TRUCK COMPANY (CARGO) (REFRIGERATOR) (TOE 55-18)

3-9. General

The transportation medium truck company (cargo) is organized for the most economical highway movement of bulk dry cargo in theaters of operations. In an emergency, task equipment of the company can be employed for transporting personnel. Although the offroad operational mobility of the company is restricted by task vehicle limitations, this disadvantage is offset by the company's one-time lift capacity and its relay operation capability. The transportation medium truck company (cargo) is equipped with cargo semitrailers when it is employed in its principal role of transporting general cargo. This company may be equipped with refrigerator semitrailers to satisfy special requirements for moving perishable subsistence and other cargo that require

maintenance of prescribed temperature levels during transport (FM 10-60).

3-10. Organization

Both the cargo and the refrigerator companies are organized with a company headquarters, a maintenance section, and three truck platoons. Each truck platoon consists of a platoon headquarters and two truck squads (fig 3-1). Personnel authorizations for the company headquarters and the truck platoons of each of the type companies are identical; however, the refrigerator company has an additional 15 refrigeration specialists and three refrigeration helpers assigned to the maintenance section.

3-11. Equipment

a. The transportation medium truck company

(cargo) is authorized sixty 5-ton truck tractors and sixty 12-ton cargo semitrailers. Units engaged in semitrailer relay operations may be authorized an additional 60 semitrailers by the theater commander.

b. The transportation medium truck company (refrigerator) is authorized sixty 5-ton tractors and sixty 7 1/2-ton refrigerator van semitrailers.

c. In addition to the task vehicles, tool sets and maintenance equipment for organizational maintenance, communications equipment for command and control, weapons for security and defense, mess equipment, and other standard items necessary for administration and operation in the field are authorized by tables of organization and equipment. Additional or substitute equipment as required by operational conditions may be authorized by the theater commander.

3-12. Capabilities

For planning purposes, with the units at full strength, the capabilities of the companies are figured on the basis of 75-percent vehicle availability, four round trips daily for local hauls or two round trips daily (one per 10-hour shift) for line hauls.

a. The transportation medium truck company (cargo) has the capability, based on 12 short tons (STON) of cargo per semitrailer or 50 passengers per semitrailer (emergency only), to transport 2,160 STON daily in local hauls or 1,080 STON daily in line hauls; personnel transport capabilities are 9,000 personnel daily in local hauls or 4,500 personnel daily in line hauls. Although the combination task vehicle is normally considered an economical onroad cargo carrier, its offroad capabilities may be greatly improved by substituting desert tires. This additional traction for the prime mover and the increased flotation of both tractor and semitrailer provide acceptable offroad mobility for extended desert operations.

b. The transportation medium truck company (refrigerator) has the capability, based on 6 STON of cargo per refrigerator van, to transport 1,080 STON daily in local hauls or 540 STON daily in line hauls. This unit has no capability for transporting personnel.

3-13. Employment

a. The transportation medium truck company (cargo) is employed in a theater of operations for economical transportation of bulk dry cargo.

(1) In line haul operations, it provides cargo transport from initial points of entry into the theater as far forward into the army area as possible. In the army area, medium truck companies operate from army rear to general support and direct support activities in the corps areas as a part of the system operated by the transportation brigade. This system is coordinated with the interzonal transportation elements of the communications zone and it complements the motor transport capabilities of support brigades and units of other armywide services.

(2) In local haul operations, the transportation medium truck company (cargo) is used in any type of motor transport operation where its employment is practicable and feasible. Its use to replace the less economical light truck companies employed in areas originally not conducive to larger vehicles but subsequently rehabilitated and/or reconstructed is a matter of utmost concern to the motor transport operator, and continuing emphasis must be placed on this issue.

b. The transportation medium truck company (refrigerator) is employed wherever required to transport perishable cargo. It may also be used to transport cargo requiring controlled temperatures (electronic devices, missile components, automatic data processing equipment, and like items). Such employment may involve local and/or line hauls. Offroad operations of this unit are generally limited to areas of good trafficability.

Section IV. TRANSPORTATION MEDIUM TRUCK COMPANY (PETROLEUM) (TOE 55-18)

3-14. Organization

The transportation medium truck company (petroleum) is organized with a company headquarters, a maintenance sections, and three truck platoons,

each with a platoon headquarters and two truck squads (fig 3-1). In personnel assignment and strength, it is identical to the transportation medium truck company (cargo).

3-15. Equipment

The transportation medium truck company (petroleum) is authorized sixty 5,000-gallon gasoline tank semitrailers with sixty 5-ton truck tractors as prime movers. In addition, the company is authorized tool sets and maintenance equipment for organizational maintenance, communications equipment for command and control, mess equipment, weapons for security and defense, and other standard items of issue necessary for administration and operation in the field.

3-16. Capabilities

Planning capabilities of the transportation medium truck company (petroleum), with the unit at full strength, are based on the assumption of 75-percent vehicle availability, four round trips daily for local hauls or two round trips daily (one per 10-hour shift) for line hauls, and 5,000 gallons of liquid cargo per semitrailer. On this basis it is capable of moving 900,000 gallons of fuel per day in local hauls and 450,000 gallons in line hauls. Extended offroad operations cannot be considered for the company unless trafficability is unusually good.

3-17. Employment

a. In normal operations, the transportation medium truck company (petroleum) is employed in the line haul transport of bulk fuel from initial points of entry into a theater to points in the communications zone and the army area, based on the overall petroleum, oil, and lubricants (POL) distribution plan for the theater. The materiel command, theater army support command, forwards bulk POL to the farthest points practicable in the field army, whether by truck, pipeline, or other means. Tankage is erected in the army area to receive and store this product. Transportation medium truck companies (petroleum) make bulk delivery from the tank storage areas to the supply points operated by general and direct support units in the corps areas, to direct support units in the army service area, and to divisions and separate brigades.

b. Because of the single-user characteristic of the petroleum company—it has the mission of

and is equipped with task vehicles for the transport of bulk POL products—the attachment of the company to a command and supervisory headquarters may vary from the conventional attachment of a transportation truck unit to either a transportation motor transport battalion or a higher transportation headquarters for command, administration, and operations. The petroleum company may—

(1) Be attached to a transportation motor transport command and supervisory unit (battalion or higher) for command, administration, and operations. In this instance, the company is under full control—operationally and administratively—of that transportation command and supervisory unit. Task vehicles of the company are committed in support of POL movement on a daily and/or recurring basis in response to the requests for transportation support as received from the appropriate POL service agency.

(2) Be attached to a transportation motor transport command and supervisory unit (battalion or higher) for command and administration, but be placed under operational control of the POL service for daily operations. In this instance, the motor transport unit exercises command and administrative control over the company, but acts in an advisory capacity to the POL service as far as daily vehicle operations are concerned; the task vehicles of the company are committed in support of the movement of bulk POL, under the operational control of the appropriate POL service agency.

(3) Be attached to a POL service unit or agency for command, administration, and operations. In this instance, all functions of the company are under the jurisdiction of the appropriate POL service agency.

c. The method of attachment and operation of the petroleum company will normally depend upon the local situation and upon command policies and/or directives. However, *maximum utilization* of the unit and its assigned task vehicles is of vital importance to the command and agencies concerned and this factor must be carefully considered when determining the method to be employed.

Section V. TRANSPORTATION LIGHT-MEDIUM TRUCK COMPANY (TOE 55-67)

3-18. General

The transportation light-medium truck company is essentially a light truck company (2 1/2-ton

trucks) augmented by one medium truck squad (5-ton tractors with 12-ton semitrailers). This augmentation provides the company with an or-

ganic capability to provide transportation for all classes of supply, except bulk class III, within the army area in combat support and combat service support operations.

3-19. Organization

The transportation light-medium truck company is organized with a company headquarters, a maintenance section, and three truck platoons: two light truck platoons with two light truck squads each, and one light-medium truck platoon, which is a three-squad platoon with two light

truck squads and one medium truck squad (fig 3-2).

3-20. Equipment

The transportation light-medium truck company is authorized sixty 2 1/2-ton trucks with sixty 1 1/2-ton cargo trailers and ten 5-ton truck tractors with twenty 12-ton semitrailers as task equipment. In addition to its task equipment, the company is authorized tool sets and equipment adequate for performing organizational maintenance, communications equipment for command

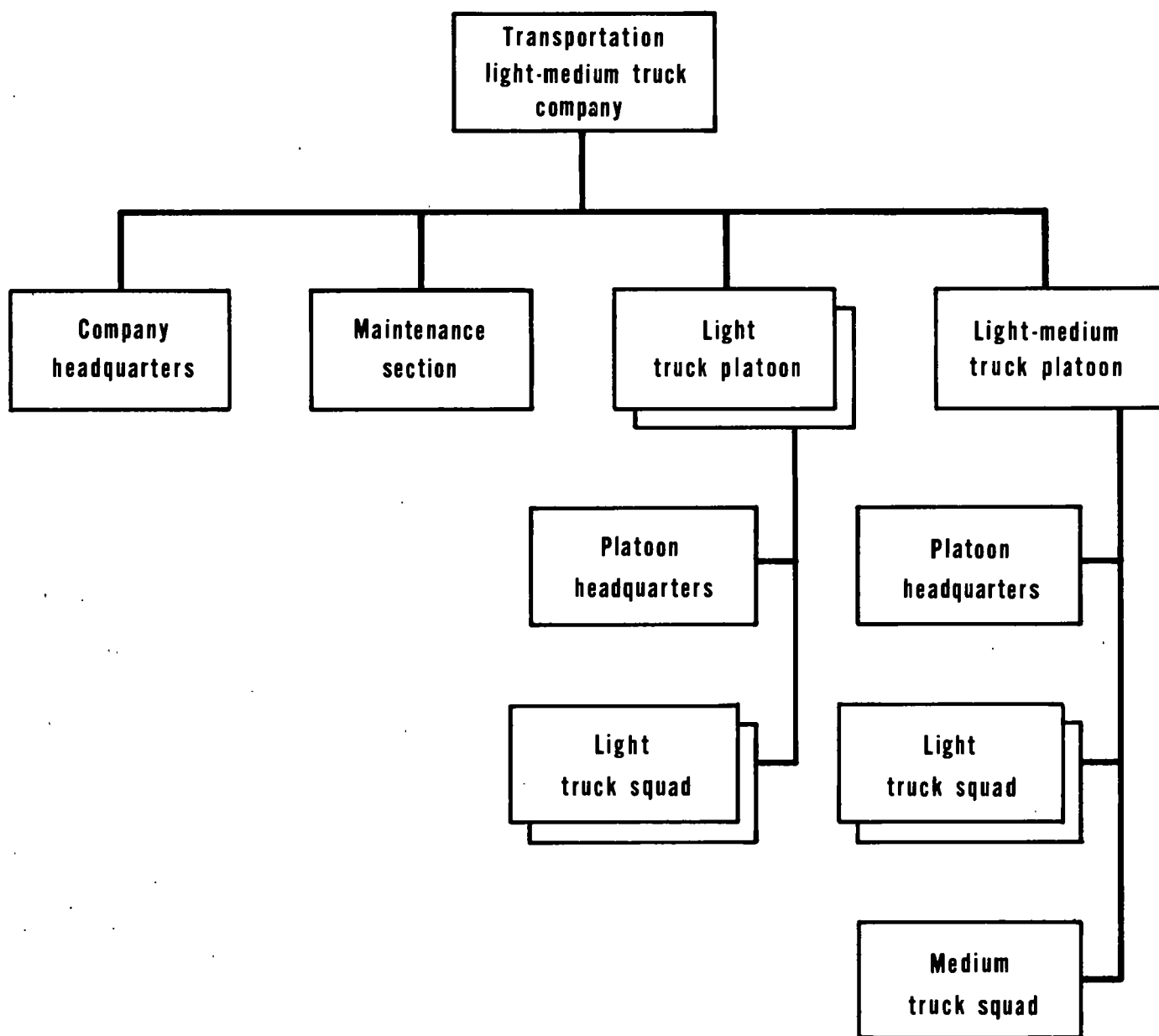


Figure 3-2. Organizational chart, transportation light-medium truck company (TOE 55-67).

and control, weapons for security and defense, and mess equipment and other standard items of issue for administration and operation of the unit in the field.

3-21. Capabilities

The light-medium truck company has the total lift capability of the light truck company (2 1/2-ton), plus that of one medium truck squad. The authorization of truck tractors and semitrailers in the ratio of 1 to 2 gives the unit a trailer relay capability or a limited capability for mobile storage. For planning purposes, based on the assumption of 75-percent vehicle availability with the unit at full strength (eight 12-ton stake and platform semitrailers available), this company can transport 276 short tons (STON) of general cargo in one lift. For local hauls, based on four round trips daily transporting cargo or six round trips daily transporting personnel, it can move 1,104 STON of cargo or 7,800 personnel. In line

haul operations, based on two trips daily, it can transport 552 STON of cargo or 2,600 personnel.

3-22. Employment

The transportation light-medium truck company provides a flexible responsive motor transport unit used primarily to move dry cargo. The incorporation into this unit of the medium squad with its tractor trailer combination vehicles offers a limited capability to meet requirements for line haul transport in the assigned areas of responsibility. This medium truck squad may also be employed in short hauls for economical transport of larger bulk shipments, or when suitable operating areas make their use more economical than the 2 1/2-ton trucks. Light-medium truck companies in the transportation brigade are employed as utility motor transport in performing the brigade mission and in reinforcing the direct support and general support group transport capability as required.

Section VI. TRANSPORTATION HEAVY TRUCK COMPANY (TOE 55-28)

3-23. General

The transportation heavy truck company is organized and equipped to satisfy the military requirements for highway transportation of overweight and outsize loads, primarily the main battle tank and other combat vehicles. The heavy-lift capabilities of the company are also used in moving heavy engineer equipment and overweight, bulky general cargo.

3-24. Organization

The company is organized with a company headquarters, a maintenance section, and three truck platoons, each having a platoon headquarters and two truck squads (fig 3-1).

3-25. Equipment

Task equipment authorized the transportation heavy truck company consists of 24 heavy equipment transporter semitrailers and 24 truck tractors. The 10-ton (or larger) truck tractor authorized is equipped with dual winches of suitable capacity to load disabled combat vehicles onto the semitrailer without the assistance of other equipment. The eight-wheel, 60-ton heavy equipment transporter semitrailer is designed to facilitate the loading and transport of either operable or inoperable main battle tanks. Axle loadings are

distributed to permit movement over standard improved highways and bridges of class 80 or over. The maximum allowable towed speed for the loaded combination is 26 miles (42 kilometers) per hour on improved roads. The size and weight of the loaded vehicle and its speed limitations restrict its normal use to the specific purposes for which it was designed. In addition to the task vehicles described, the company is authorized tool sets and equipment for performing organizational maintenance, communications equipment for command and control, weapons for defense and security, mess equipment, and other standard items of issue for administration and operation of the unit in the field.

3-26. Capabilities

For planning purposes, with the unit at full strength, the capabilities of the transportation heavy truck company are figured on the basis of 75-percent vehicle availability, four round trips daily for local hauls or two round trips daily in line hauls, and 40 short tons (STON) of cargo per vehicle. This provides a capability of 2,880 STON of cargo, or tanks, or similar vehicles per day for short hauls and 1,440 STON of like cargo per day in line hauls. Highway alignment (both in curvature and grades) and usable road widths influence the performance of company task elements.

3-27. Employment

The transportation heavy truck company is employed to transport heavy equipment from general support to direct support level in the corps areas and to divisions of the corps. The heavy

truck company is also used in evacuating disabled heavy equipment to the rear. Heavy truck companies in the communications zone are employed when there is a requirement for onroad movement of heavy-lift or outsize equipment.

Section VII. TRANSPORTATION CAR COMPANY (SUPPORT COMMAND OR AIRBORNE CORPS) (TOE 55-19)

3-28. Organization

The transportation car company is organized on a highly flexible basis to meet a variety of requirements. The car companies in two types of organizations are discussed below; each type unit is authorized 60 task vehicles, 20 in each platoon.

a. *The support command car company* is organized with a company headquarters, a maintenance section, and three operating platoons: a sedan platoon, a 1/4-ton truck platoon, and a 3/4-ton truck platoon. Each platoon consists of a platoon headquarters and two squads of the appropriate type task vehicles (fig 3-3). The company is equipped with three basic vehicle types: the sedan platoon with light five-passenger sedans; the 1/4-ton truck platoon with 1/4-ton trucks, 50 percent of which have 1/4-ton trailers; and the

3/4-ton truck platoon with 3/4-ton (or 1 1/4-ton) cargo trucks. Each is capable of satisfying the requirements of a different type of situation. When all three items of equipment are represented in the company, it is capable of performing three types of missions: the sedan gives the company the capability of transporting military personnel over improved roads, the 1/4-ton truck is a command and reconnaissance vehicle suitable for cross-country work, and the 3/4-ton (or 1 1/4-ton) truck has a cargo and personnel carrying capability in addition to that of command and reconnaissance. When one type of mission is likely to be predominant, the company may be organized and equipped accordingly.

b. *The airborne corps car company* is organized with a company headquarters, a maintenance

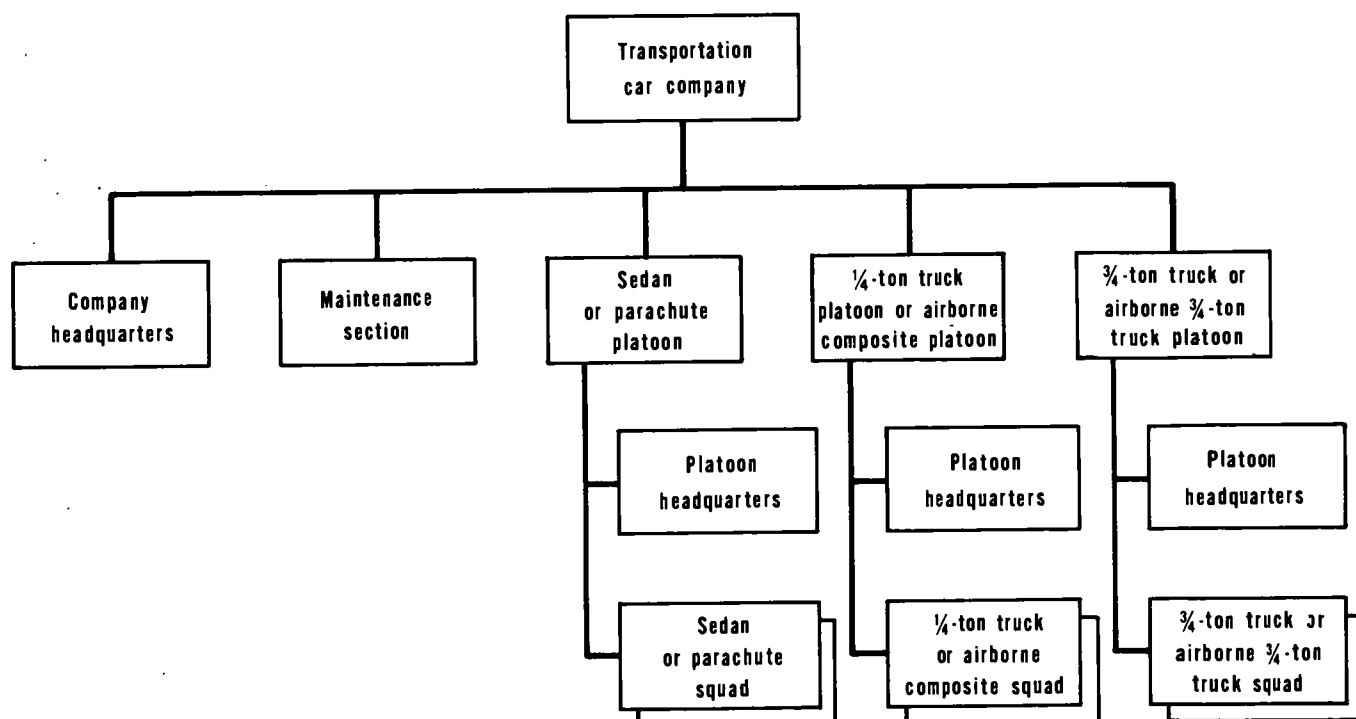


Figure 3-3. Organizational chart, transportation car company (support command or airborne corps) (TOE 55-19).

nance section, and three operating platoons: a parachute platoon, an airborne composite platoon, and an airborne 3/4-ton truck platoon. Each platoon consists of a platoon headquarters and two squads of the appropriate type task vehicle (fig 3-3). The task vehicles of the parachute platoon are 1/4-ton trucks, each with a 1/4-ton trailer. Those of the airborne composite platoon are 50-percent 1/4-ton trucks with 1/4-ton trailers and 50-percent 3/4-ton (or 1 1/4-ton) cargo trucks. Those of the airborne 3/4-ton truck platoon are 3/4-ton (or 1 1/4-ton) cargo trucks. In support of airborne operations, the parachute platoon is normally employed with the drop elements and landed by parachute; the other two platoons are moved to the airhead with the followup elements and are air landed. All personnel in the parachute platoon are jump-qualified.

3-29. Equipment

The task vehicles authorized the transportation car company are commercial-type sedans, 1/4-ton trucks and trailers, and 3/4-ton (or 1 1/4-ton) trucks. The vehicle mix, by either company or platoon, may vary to meet a specific operational environment; for example, tactical vehicles for a tactical headquarters in an area of poor highway trafficability or sedans for a headquarters in a better developed and less vulnerable area. The company is also authorized tool sets and equipment adequate for performing organizational maintenance, communications equipment for command and control, weapons for defense and security, mess equipment, and other standard items of issue for administration and operation of the unit in the field.

3-30. Capabilities

For planning purposes, and with the unit at full strength, capabilities are computed on a 75-per-

cent availability of vehicles with all the vehicles carrying their rated capacity.

a. A platoon equipped with the commercial design sedans can transport 75 people in one lift.

b. A platoon equipped with 1/4-ton trucks and trailers can transport 45 personnel and 2 1/2 tons of baggage or small-size supplies, or 6 1/4 tons of small-size cargo in one lift.

c. A platoon equipped with 3/4-ton trucks can transport 11 1/4 tons of cargo or 120 people in one lift. (When equipped with 1 1/4-ton trucks, the capability is increased accordingly.)

d. A composite platoon composed of ten 1/4-ton trucks and trailers and ten 3/4-ton trucks (designated the airborne organization) can transport 82 personnel or 10 tons of small-size cargo in one lift. (When equipped with 1 1/4-ton trucks, the capability is increased accordingly.)

e. When the transportation car company is organized for an airborne corps, the parachute platoon has the capability of being landed by parachute or aircraft.

3-31. Employment

The transportation car company is employed to transport personnel and light cargo by motor vehicles. The unit is employed in both the communications zone and the field army area. When employed in the communications zone, in addition to the car companies attached to the transportation command, one is also attached to each area support command. When employed in the field army area, car companies are attached to the transportation brigades and the corps support brigades. In a corps support command, independent corps, the unit is attached to a motor transport battalion.

CHAPTER 4

TRANSPORTATION MOTOR TRANSPORT DIVISIONAL UNITS

4-1. General

a. The current Army divisions, except for the airborne division, have an assigned motor transport capability to provide for the transport of cargo and personnel and to supplement the transport organic to division units. This motor transport capability is provided solely for employment within the division in the accomplishment of the division mission. The theaterwide motor transport service provides for the logistic movement by motor transport as far forward as the division brigade area; logistic movement forward of the brigade area is a division function.

b. The motor transport capability of the type ground division (infantry, infantry (mechanized), or armored) is provided by a transportation truck company which is assigned to the division supply and transport battalion.

c. Airborne and airmobile divisions, because of the peculiarity of their employment, have only a limited motor transport capability.

(1) The airmobile division has, in addition to transport organic to divisional units, a light truck platoon assigned for motor transport support.

(2) The airborne division has no motor transport capability other than that which is organic to divisional units; however, depending on the division mission and anticipated employment, an additional motor transport capability may be provided by augmenting the division with a motor transport company.

d. Motor transport requirements generated within a division which are over and above the division capability are met by additional motor transport support provided from corps or army motor transport resources.

e. This manual is primarily concerned with, and discusses, motor transport support in the ground divisions; however, operational procedures are also generally applicable to the airmobile and airborne divisions.

4-2. Ground Division Motor Transport Units

There are three types of divisional motor transport companies (TOE 55-84, TOE 55-87, and TOE 55-88), each with the same support mission for the type ground division to which it is assigned. These units have an almost identical organization and each conducts its operations in the same manner (fig 4-1).

a. *Mission.* The mission of each of the ground division motor transport units is to provide transportation for unit distribution of all classes of supply except class V (ammunition), to transport the division reserve supplies for which it is responsible, to furnish vehicles required to displace division headquarters and the division administrative company, and to supplement the transport means available to other elements of the division.

b. *Organization.* The ground division motor transport units are each organized with a company headquarters, three light truck platoons, a POL/medium truck platoon, and a maintenance section (fig 4-1). It is in the POL/medium truck platoon where the companies differ in organizational structure.

(1) In the infantry division (mechanized) (TOE 55-84), the POL/medium truck platoon consists of a platoon headquarters; two POL squads, medium truck; one cargo squad, medium truck; and one POL squad, light-medium truck.

(2) In the armored division (TOE 55-87), the POL/medium truck platoon consists of a platoon headquarters; three POL squads, medium truck; one cargo squad, medium truck; and one POL squad, light truck.

(3) In the infantry division (TOE 55-88), the POL/medium truck platoon consists of a platoon headquarters; two POL squads, medium truck; one cargo squad, medium truck; and one POL squad, light truck.

c. *Equipment.*

(1) The number of task vehicles authorized in the light truck platoons and in the cargo

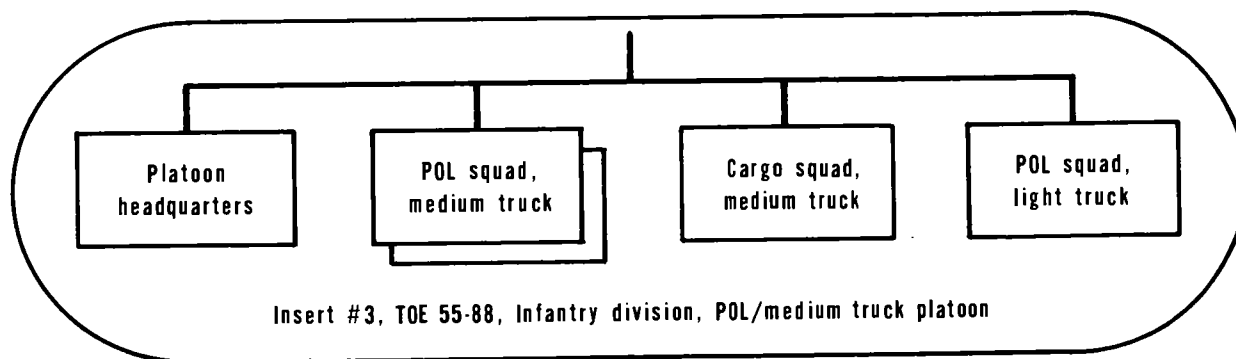
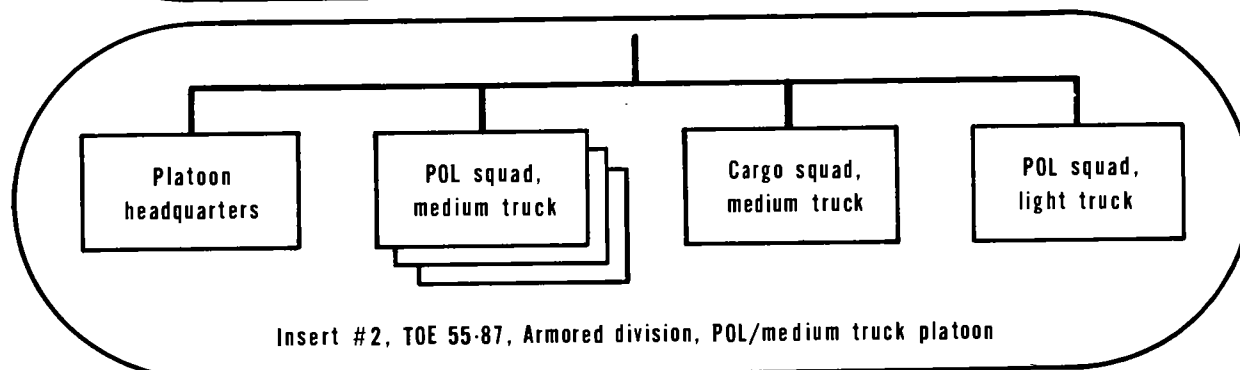
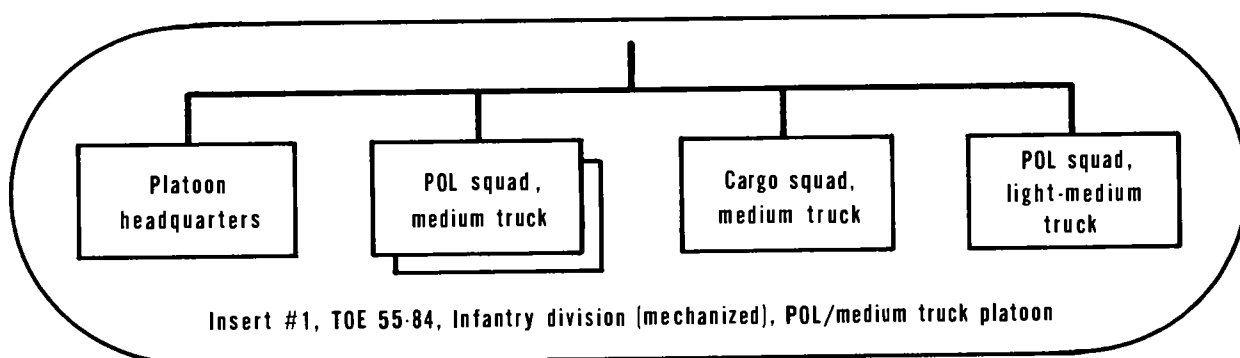
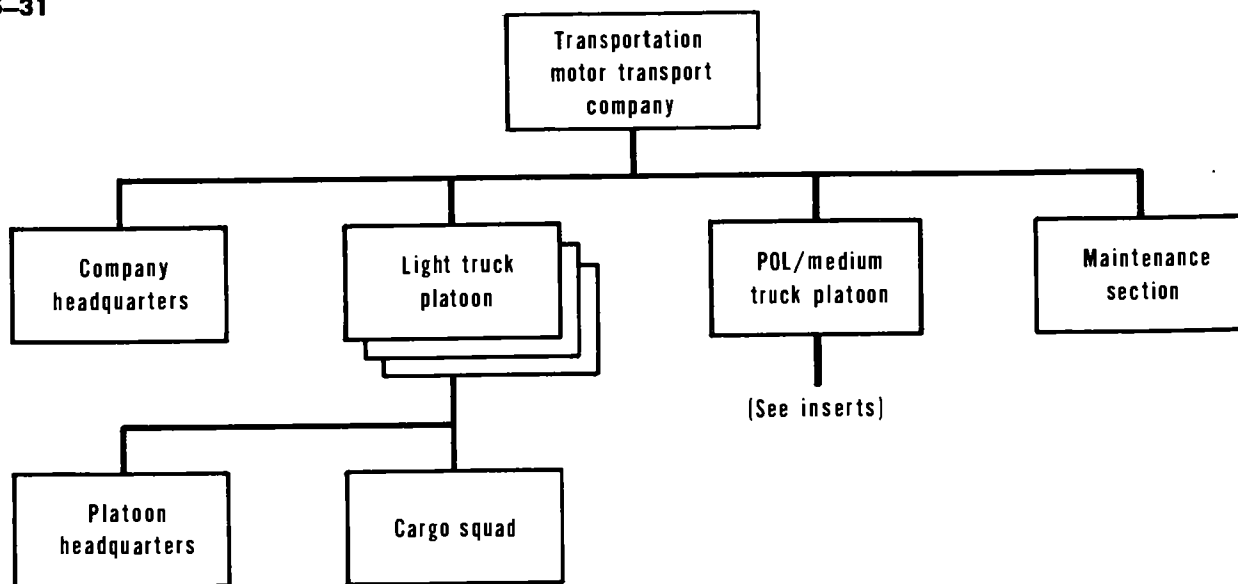


Figure 4-1. Organizational chart, transportation motor transport company, supply and transport battalion, infantry division (mechanized) (TOE 55-84), armored division (TOE 55-87), and infantry division (TOE 55-88).

squad, medium truck, of the POL/medium truck platoon for the movement of dry cargo is identical in each of the three types of ground divisions. The task vehicles authorized for the movement of POL vary in the divisions in accordance with the POL requirements of the division. Table 4-1 indicates the number and type of vehicles authorized in the motor transport company for each of the

type ground divisions, and their assignment within the company.

(2) The companies are also authorized tool sets and equipment adequate for performing organizational maintenance, communications equipment for command and control, weapons for defense and security, mess equipment, and other standard items of issue for administration and operation of the units in the field.

Table 4-1. Number and Type of Assigned Task Vehicles, Division Motor Transport Companies

TOE	Assignment within company	Type vehicles				
		Truck, 2½-ton	Trailer, 1½-ton	Truck tractor, 5-ton	Semitrailer, 12-ton stake and platform	Semitrailer, 6,000-gallon tank
55-84 (Infantry Division (Mechanized))	Light truck platoons (3)	60	60			
	POL/medium truck platoon					
	POL squads, medium truck (2)			20		20
	Cargo squad, medium truck			10	20	
55-87 (Armored Division)	POL squad, light-medium truck	*8	*8	5		5
	Light truck platoons (3)	60	60			
	POL/medium truck platoon					
	POL squads, medium truck (3)			30		30
55-88 (Infantry Division)	Cargo squad, medium truck			10	20	
	POL squad, light truck	*8	*8			
	Light truck platoons (3)	60	60			
	POL/medium truck platoon					
	POL squads, medium truck (2)			18		18
	Cargo squad, medium truck			10	20	
	POL squad, light truck	*8	*8			

*Tank and pump unit mounted in truck; tank unit mounted in trailer.

4-3. The Division Transportation Officer (DTO)

As a member of the staff of the division commander, the DTO provides advice, staff supervision, and assistance in transportation matters. He coordinates with the division G3 on matters pertaining to tactical troop moves and with the division G4 on logistical and administrative transport matters. As the DTO, he assists the support command commander in controlling the motor transport resources assigned or attached to the division for logistic support. The DTO provides, through communication with the established transportation services movement control organization, the connecting link between the division and the corps, army (field army support command (FASCOM)), and ultimately the communications zone (theater army support command (TASCOM)) motor transport services (chap 6). In conjunction with this action and the implementation of the division movement control function, he coordinates and regulates the movement of vehicles of the motor transport services into, within, and out of the division area. He is assisted in the performance of transportation

functions by a movement control officer who is assigned to the division transportation section.

4-4. Commitment of Division Motor Transport Vehicles

Priorities for the use of the division motor transport resources are established at division general staff level and are provided to the division support command. Motor transport capabilities are then balanced against the requirements and the priorities as established at division level and, based on these established priorities, the available motor transport is committed.

4-5. Requirements for Additional Motor Transport Support

a. When the division logistic requirements for motor transport exceed the available division motor transport capability, or when requirements for tactical deployment generate excessive motor transport requirements, the DTO requests additional motor transport support from the motor transport service through movement control

channels. Such requirements may be satisfied by the local transportation movements office (TMO), or they may be referred by the TMO to the movement control center at corps support brigade or FASCOM for action.

b. The responsibility for staff supervision and control of additional motor transport support attached to a division to meet operational requirements is, during the period of that attachment, assumed by the DTO. Procedures for the employment of such attached motor transport are the

same as for employment of the division motor transport resources.

4-6. Duties of Personnel, Divisional Motor Transport Units

The duties and responsibilities of the company commander, platoon officers, and noncommissioned officers of divisional motor transport units are the same, with regard to their unit, as those on such personnel in motor transport units of the transportation service (para 7-10 through 7-25).

CHAPTER 5

CELLULAR UNITS

Section I. TRANSPORTATION MOTOR TRANSPORT TEAMS

5-1. General

a. Requirements may be generated in motor transport units and organizations for additional and/or certain qualified personnel to meet operational commitments or to perform recurrent motor transport tasks which require additional personnel and equipment but are not of sufficient proportion to justify the assignment of a conventional table of organization and equipment (TOE) transportation unit. To meet these requirements, cellular units of less than company strength are established. These motor transport teams are contained in TOE 55-540.

b. Motor transport teams provide personnel to—

(1) Supplement transportation motor transport TOE units and organizations when additional trained personnel and equipment of less than conventional TOE unit strength are desired.

(2) Perform motor transport functions for an organization which requires less transportation service capability than that provided by a motor transport TOE unit.

(3) Form an organization when no TOE is provided, or when a number of small cells of diversely trained personnel are required for the proper functioning of an organization.

c. The organization, equipment, and capabilities of the motor transport teams are the same as those of corresponding squads in conventional motor transport TOE units except for teams GF and GG (para 5-7 and 5-8) which are special mission type teams.

d. When a requirement arises for vehicle operators for employment in driveaway operations, the motor transport teams discussed herein may be used; teams are activated less wheeled vehicle equipment, thus providing driver personnel for such operations.

5-2. Team GA—Car Squad

a. Personnel and Equipment. The car squad has an authorized strength of 12 personnel consisting of one squad leader, one wheeled vehicle repairman, and 10 light vehicle drivers. It is authorized 10 task vehicles. These may be either sedans, 1/4-ton utility trucks with 1/4-ton trailers, or 3/4-ton trucks with 3/4-ton trailers, depending on the type vehicle required.

b. Mission. The car squad provides for the transportation of passengers, messengers, and a limited amount of cargo by sedan, 1/4-ton utility truck, or 3/4-ton cargo truck.

c. Capabilities. Depending on the type vehicle authorized, the car squad has varied capabilities. Each truck lift capability is based on eight vehicles with trailers being available for dispatch.

(1) When equipped with sedans, the car squad can transport 40 passengers per lift.

(2) When equipped with 1/4-ton utility trucks with 1/4-ton cargo trailers, the car squad can transport 24 passengers and 2 tons of cargo (1/4-ton per trailer) per lift.

(3) When equipped with 3/4-ton cargo trucks with 3/4-ton cargo trailers, the car squad can transport either 64 passengers or 12 tons of cargo (3/4-ton per truck and 3/4 ton per trailer) per lift. (When equipped with the 1 1/4-ton cargo truck with appropriate cargo trailer, the capability is increased accordingly.)

5-3. Team GB—Bus Squad

a. Personnel and Equipment. The bus squad has an authorized strength of eight personnel consisting of one squad leader, one wheeled vehicle repairman, and six heavy vehicle drivers. It is authorized six buses as task vehicles.

b. Mission. The bus squad provides for the transportation of either personnel or litter patients by bus.

c. Capabilities.

(1) When operating as a passenger carrier, the bus squad can transport 185 passengers (five buses available for dispatch, carrying 37 passengers each) per lift.

(2) When buses are converted to litter carriers, the bus squad can transport 90 litter patients (five buses available for dispatch carrying 18 litters each) per lift.

5-4. Team GC—Heavy Truck Squad

a. Personnel and Equipment. The heavy truck squad has an authorized strength of 18 personnel consisting of one squad leader, one wheeled vehicle repairman, and 16 heavy vehicle drivers. It is authorized four 10-ton (or larger) tractors with tank transporter semitrailers as task vehicles.

b. Mission. The heavy truck squad provides for the transportation of general and outsize or heavy lift cargo.

c. Capabilities. The heavy truck squad can transport 120 short tons (STON) per lift in local or line hauls (three tractor semitrailer combinations available for dispatch, carrying 40 STON each).

5-5. Team GD—Light Truck Squad

a. Personnel and Equipment. The light truck squad has an authorized strength of 22 personnel consisting of one squad leader, one wheeled vehicle repairman, and 20 light vehicle drivers. It is authorized 10 trucks as task vehicles, either 2 1/2-ton or 5-ton, as required, with 1 1/2-ton cargo trailers.

b. Mission. The light truck squad provides for the transportation of cargo or personnel by light truck.

c. Capabilities. The light truck squad has, based on the type task vehicle authorized, a dual capability; both are based on eight vehicles, with trailers, being available for dispatch.

(1) When equipped with 2 1/2-ton cargo trucks with 1 1/2-ton cargo trailers, the light truck squad can transport 32 STON of cargo or 160 passengers per lift.

(2) When equipped with 5-ton cargo trucks with 1 1/2-ton cargo trailers, the light truck squad can transport 52 tons of cargo or 160 passengers per lift.

5-6. Team GE—Medium Truck Squad

a. Personnel and Equipment. The medium truck squad has an authorized strength of 23 personnel consisting of one squad leader, two wheeled vehicle repairmen, and 20 heavy vehicle drivers. It is authorized 10 task vehicles; these may be the 5-ton tractor with either the 12-ton cargo semitrailer, the 5,000-gallon tank semitrailer, or the 7 1/2-ton refrigerator semitrailer depending on the type equipment required.

b. Mission. The medium truck squad provides for the transportation of general cargo, bulk petroleum products, or refrigerated cargo by medium truck tractor semitrailer combinations.

c. Capabilities. Depending on the type vehicle authorized, the medium truck squad has varied capabilities. Each lift capability is based on eight tractor semitrailer combinations being available for dispatch.

(1) When equipped with the 12-ton cargo semitrailer combination, the squad can transport 96 STON of cargo per lift.

(2) When equipped with the 5,000-gallon tank semitrailer combination, the squad can transport 40,000 gallons of bulk petroleum products per lift.

(3) When equipped with the 7 1/2-ton refrigerator semitrailer combination, the squad can transport 60 STON of refrigerated cargo per lift.

5-7. Team GF—Trailer Transfer Point Operations

Team GF specifically organized to operate a trailer transfer point, marshaling yard, or truck terminal in conjunction with a line haul operation. It consists of one officer and 14 enlisted personnel of varying military occupational specialties. The team can operate a trailer transfer point with a maximum capacity of 250 inbound and outbound semitrailer units per day. This includes receiving, segregating, and assembling loaded or empty semitrailers for further movement; operating POL facilities within the transfer point; and inspecting, servicing, and, if required, performing emergency repairs on equipment engaged in the operation.

5-8. Team GG—Highway Regulating Point

Team GG is specifically organized to operate a highway regulating point, to coordinate the movement of authorized traffic, and to make changes in truck or convoy routings. It consists

of one officer and five enlisted personnel of varying military occupational specialities. The team is capable of—

a. Reporting on convoys and other elements arriving at, and clearing, an established regulating point so that their progress may be reported and recorded; adjusting the rate of movement of such convoys and elements as required.

b. Receiving, correlating, and disseminating information on forecasted or passing traffic;

making reports on current highway conditions and changes as they occur.

c. Transmitting orders from higher headquarters to passing units or organizations and diverting or changing priorities of traffic as directed by the appropriate traffic headquarters or comparable unit.

d. Receiving and passing to the appropriate agency requests for road clearances; checking clearances of passing units.

Section II. OTHER AUGMENTATION

5-9. General

In certain instances, as with a battalion operating as the highest command and supervisory level of a motor transport service, or when round-the-clock (24-hour) operations are initiated, requirements arise to either augment or establish certain services in organizations and units of the motor transport service. To do this, various teams and detachments of supporting services are available. The many and varied requirements for administrative, supply, and maintenance augmentation in motor transport operations require that each situation be considered in its own light and teams and detachments be selected accordingly.

5-10. Composite Service Organization (TOE 29-500)

The teams and detachments listed in TOE 29-500 can provide administrative and/or supply services where units of less than company strength are required. They provide support to motor trans-

port units and organizations when, due to operational necessity, personnel administration and/or supply services are established or augmented.

5-11. Organizational Maintenance Teams (TOE 29-600)

Teams established by TOE 29-600 are capable of performing organizational maintenance on various items of unit equipment, including wheeled and tracked vehicles and associated equipment. They are employed to increase the organizational maintenance capabilities of fixed strength units where increments of less than company size are needed. They are employed in motor transport units and organizations to supplement unit capabilities in round-the-clock (24-hour) operations; to provide for centralized maintenance operations, as when a battalion maintenance facility is established; or to provide maintenance services in the establishment of facilities for line haul (trailer transfer) operations.



CHAPTER 6

ORGANIZATION FOR MOTOR TRANSPORT SERVICE IN A THEATER OF OPERATIONS

6-1. General

In a theater of operations the motor transport service is organized into three main subdivisions corresponding to the major geographical and command-oriented sections of a theater: the communications zone (COMMZ), the army area, and the corps area.

a. In the COMMZ the transportation service is a function of the theater army support command (TASCOM) (para 6-2) and is concerned with not only motor movements within the COMMZ area, but also the throughput of supplies, equipment, and personnel to the army and corps areas and as far forward as possible including into the division area.

b. In the army area, the transportation service is a function of the field army support command (FASCOM) (para 6-5). This service provides not only for the delivery of supplies, equipment, and personnel within the army service area, but also into corps and division areas. It operates in conjunction with the TSCOM motor transport service in the throughput of supplies. As required, this service may provide backup support for the corps support brigade motor transport service.

c. In the corps area, the transportation service is a function of the corps support brigade (para 6-6). This service provides for the delivery of cargo within the corps area. As required, it provides backup support for divisions attached to the corps.

d. For an independently operating corps, the transportation service is a function of the corps support command (COSCOM) (para 6-7) and operations are conducted in a manner paralleling those of the motor transport service in the FASCOM.

6-2. Motor Transport Service, TASCOM

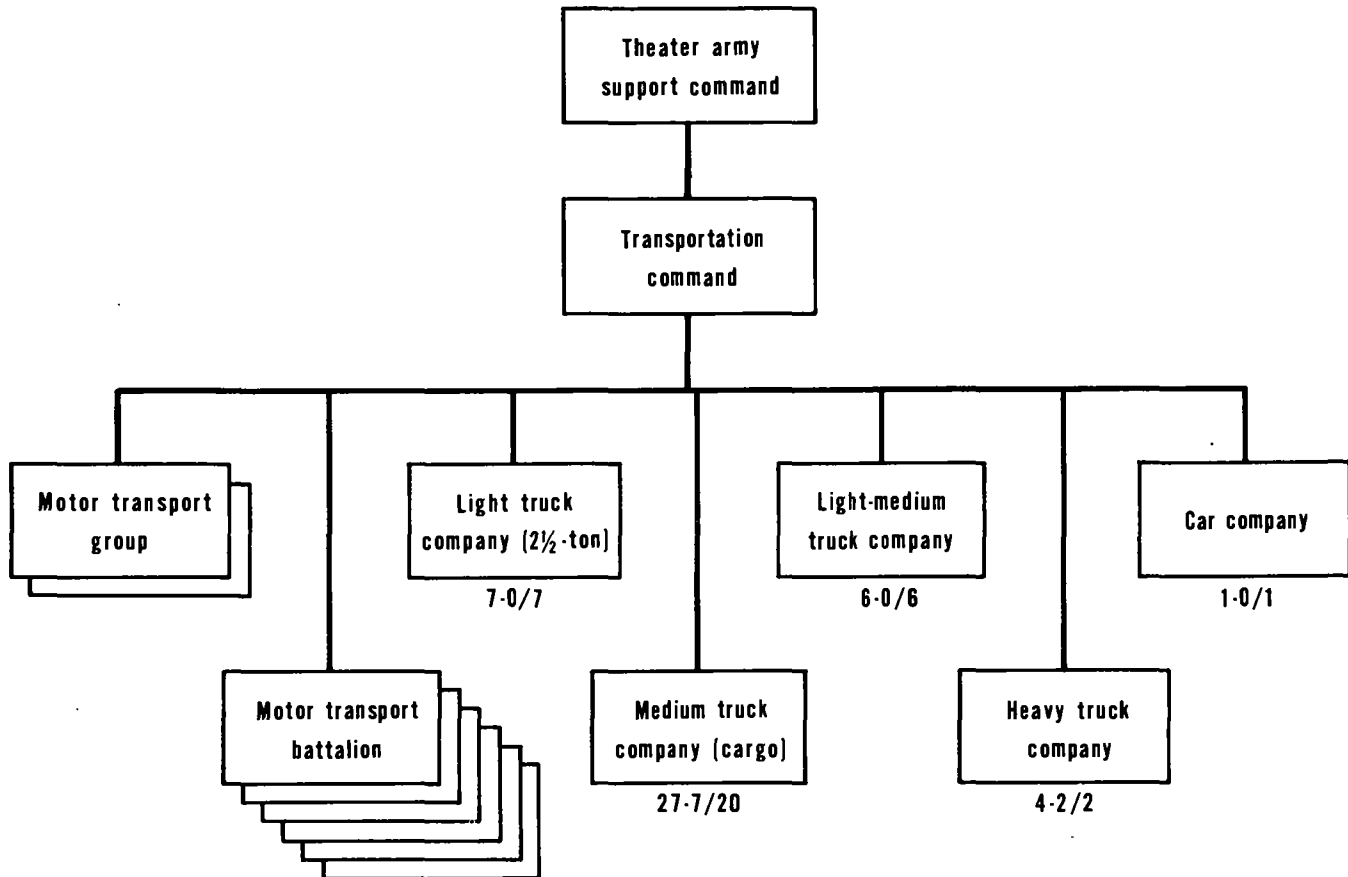
a. The transportation command is the major Army transportation headquarters in a theater.

It is a major mission command of TASCOM and is functionalized to the extent that it includes all elements necessary to move personnel and materiel from points of arrival in the theater to the field army or to intermediate destinations. It performs this transportation service for the Army and, as required, for other US forces, or in support of host nation or allied forces. Whenever possible, the transportation service features throughput of supplies.

b. The motor transport service for TASCOM (8- and 12-division forces (fig 6-1 and 6-2)) under command and supervision of the transportation command, TASCQM, provides for movement of personnel and equipment by motor transport from points of entry into the theater to the field army or to intermediate destinations. It provides backup support for those truck elements of the area support groups in the COMMZ which furnish motor transport support to meet local, routine, and recurring transport requirements within each group's area of responsibility. It establishes the interzonal motor transport service.

6-3. The TASCOM Interzonal Motor Transport Service

This service is organized to serve the theater as a whole and provides the necessary flexibility, diversity, concentration, and allocation of motor transport for rapid reaction to changes in strategic and tactical situations. The transportation command contributes to economical operation through centralized control, retaining operational control of its operating motor transport units to their most forward point of delivery. The interzonal motor transport operation is normally a line haul movement operated for an extended distance over main supply routes. Planning for and carrying out the interzonal operation is the responsibility of the transportation command and its subordinate elements, in coordination with the movement control center (MCC). (For a detailed



Note: (1) Number and type of truck companies attached to each battalion depend on battalion mission.

[2] Figures below each unit box indicate total number of units assigned to force model, and TOE strength level of units; for example, 7-0/7 means 7 units assigned, 0 units at strength level 1, 7 units at strength level, Type B.

Figure 6-1. Type motor transport service, TASCOM, 8-division force.

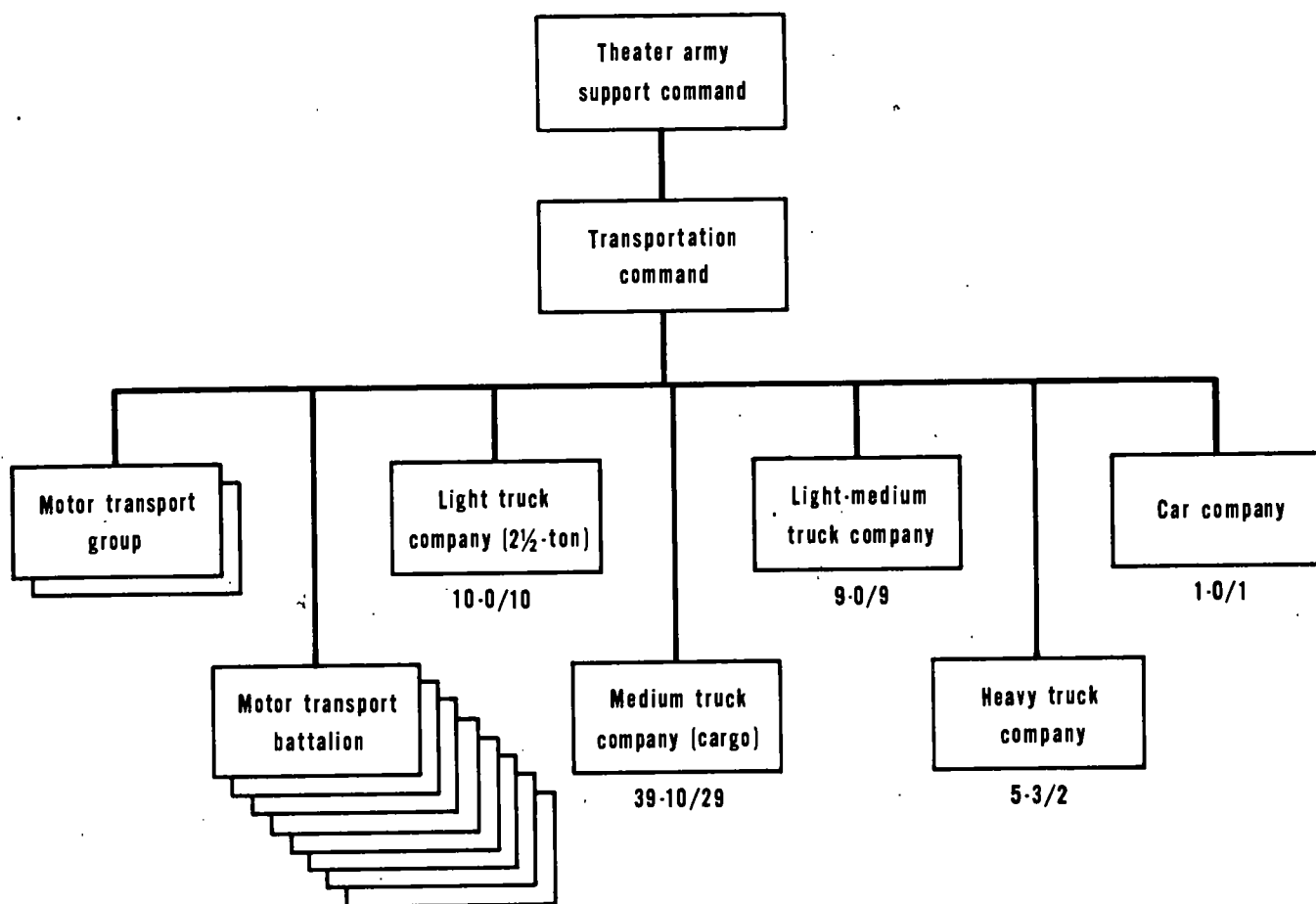
discussion of the operations of an interzonal motor transport service see FM 55-30.)

a. The MCC develops the movement plan, which outlines tonnage, class, and areas of origin and destination of cargo to be moved by all modes including motor transport. The capability of the motor transport service is committed by the appropriate transportation movements office in accordance with this movement plan. Only one requirement for each shipment is placed on the motor transport service. That requirement is placed by the transportation movements office at origin and applies until delivery of the shipment at destination regardless of distance involved. Information on diversion and reconsignment or other intransit services for cargo en route is relayed to the motor transport service by any transportation movements office authorized by the MCC to initiate such action.

b. The motor transport groups plan the requirements for, and the disposition of, their motor transport battalions to execute the movement plan; they also assign specific missions to subordinate battalions.

c. The motor transport battalions plan for accomplishment of their assigned missions through determining employment, responsibilities, and location of their subordinate truck companies. In accordance with the battalion mission, they direct companies to operate trailer transfer points, truck terminals, local and shuttle movements into and out of a relay operation, and relay operations over the main supply route.

d. The truck companies plan the allocation of personnel and equipment to do their assigned tasks and establish control and supervision consistent with established procedures.



Note: (1) Number and type of truck companies attached to each battalion depend on battalion mission.

(2) Figures below each unit box indicate total number of units assigned to force model, and TOE strength level of units; for example, 10-0/10 means 10 units assigned, 0 units at strength level 1, 10 units at strength level, Type B.

Figure 6-2. Type motor transport service, TASCOT, 12-division force.

e. In planning processes, all levels of the motor transport service consider operational planning factors such as—

- (1) Current personnel and vehicular strength of unit.
- (2) Materiel readiness posture of vehicles.
- (3) Origin and destination of movement.
- (4) Types and amounts of cargo or personnel to be transported.
- (5) Geography and capabilities of routes to be used and feasible operating speeds over routes or segments of routes.
- (6) Requirements for supporting services such as petroleum, oil, and lubricants (POL); maintenance; and communications.
- (7) Convoy security.
- (8) Physical security.

f. Typical transport operations conducted by the motor transport service which may either involve short hauls or evolve into or be conducted in conjunction with an interzonal operation include the following:

(1) *Terminal and beach clearance operations.* Clearance is a major factor in successful terminal and beach operations and is particularly important during peak periods. Clearance may include throughput of cargo to destinations in the forward COMMZ and field army areas, as well as movement to general support activities in the COMMZ rear area.

(2) *Unit movements.* These movements involve the provision of motor transport support to units less than 100 percent mobile, or which require support for movement of slow and/or tracked vehicles during deployment or administrative movement within the theater.

(3) *Retrograde movements.* These movements involve the transport of material from forward echelons toward the rear for maintenance, redistribution, and/or salvage.

6-4. Assignment/Attachment of TASCOM Motor Transport Units

Normally, the transportation motor transport brigade (TOE 55-11) will not be employed in the motor transport organization for an 8- or 12-division force. Operation of the transportation motor transport groups—the senior motor transport units under these concepts—is supervised and coordinated by transportation command. If requirements dictate and if more than two motor transport groups are employed in TASCOM, the transportation motor transport brigade will be interposed in the organizational structure as a supervisory and command headquarters between the groups and the transportation command.

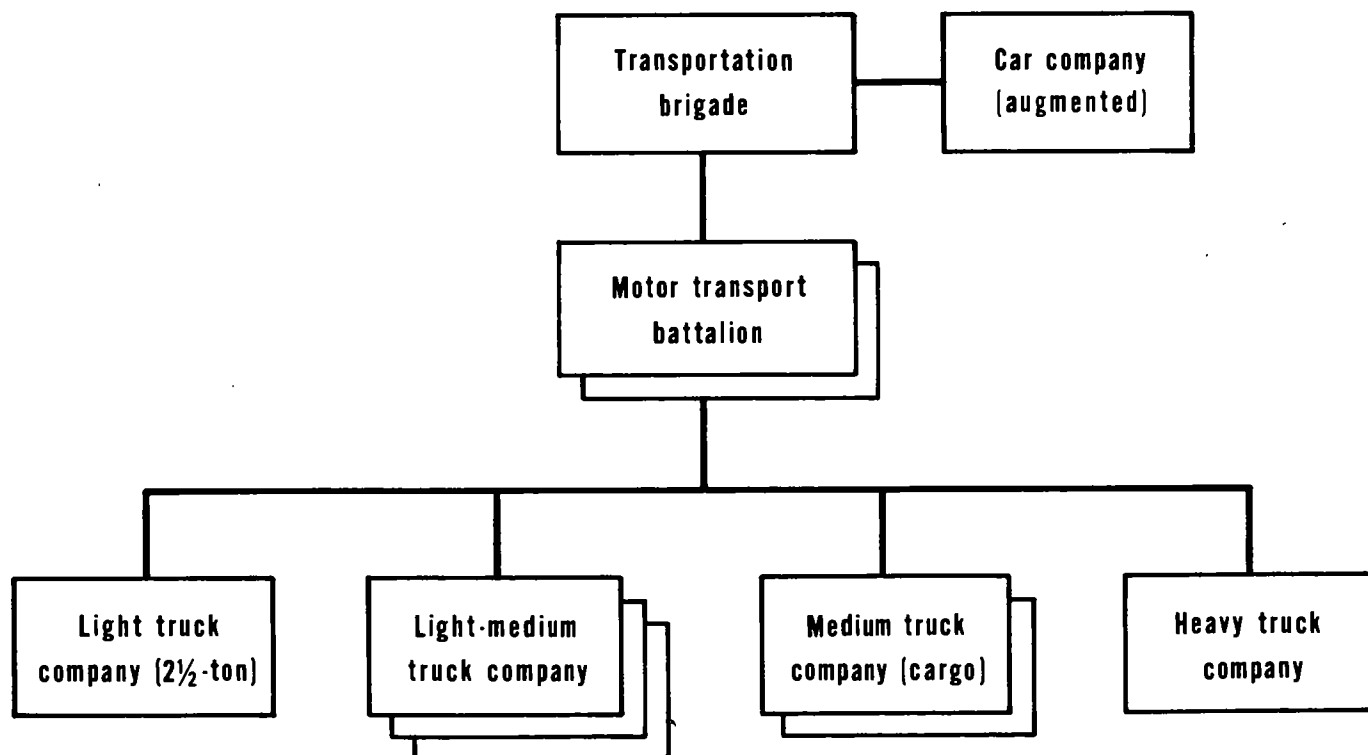
a. Upon direction of the TASCOM commander, the light-medium truck companies may be detached from the motor transport service and at-

tached for operations to COMMZ depots to provide transport support in intradepot operation.

b. The medium truck companies (petroleum) provide transport capability for moving bulk POL products (see para 3-17b for methods of attachment).

6-5. Motor Transport Service, FASCOM

a. The motor transport service for FASCOM (8- and 12-division force (fig 6-3)), under command and supervision of the transportation brigade (TOE 55-62), provides line haul motor transport support and, as required, local movement of cargo and personnel to all users of the motor transport service in the field army area. For movements originating in a corps support brigade area, this service is backup in nature and is provided only when movement requirements exceed the capability of the motor transport battalion organic to the support brigade. By direction of the army commander, motor transport units of the transportation brigade may be placed in direct support of tactical units in the corps and division area.



Note: All units at TOE strength level 1.

Figure 6-3. Type motor transport service, FASCOM, 8- and 12-division force.

b. The headquarters, transportation brigade, is a planning and control organization. It coordinates the operations of its attached motor transport battalions; the subordinate motor transport battalions and truck companies perform the motor transport operations. The brigade motor transport units provide a connecting link between the TASCOT transportation command and the direct and general support units of the corps.

(1) The motor transport service in the FASCOM transportation brigade is provided by two transportation motor transport battalions. These battalions command and control light (2 1/2-ton), light-medium, medium, and heavy truck companies (fig 6-3). The battalions normally retain control over the light, medium, and heavy companies; the FASCOM commander may direct attachment of light-medium truck companies to support groups in the army support brigade to provide direct transport support to supply and maintenance activities when required.

(2) Battalions report the capabilities of subordinate truck units to the appropriate transportation movements office. The transportation movements office commits these capabilities in accordance with the FASCOM movements program or commitment authority established by local procedure. For example, the medium truck companies are normally employed in line haul operations in accordance with the FASCOM movements program prepared by the FASCOM MCC; they may be employed in extending the line hauls of the transportation service, TASCOT. The light truck companies are allocated for local transport and are committed, within established limits, by the local transportation movements offices.

(3) The vehicles of the heavy truck companies are normally used to distribute heavy vehicles and cargo from railheads in the army rear to consignees in the local area. When no rail facilities are available, these vehicles may be used to transport heavy items from the army rear to the forward area.

(4) The transportation car company normally remains under operational control of the transportation brigade. It is provided an augmentation of one additional platoon by modification tables of organization and equipment (MTOE), and it provides local delivery of personnel and light cargo for the field army rear and FASCOM headquarters. This company may be equipped with sedans, 1/4-ton trucks, 3/4-ton (or 1 1/4-ton) trucks, or a combination of these vehicles.

(5) The medium truck companies (petroleum) provide the motor transport capability for

moving bulk POL supplies in the field army service area (see para 3-17b for methods of attachment).

6-6. Motor Transport Service, Corps Support Brigade

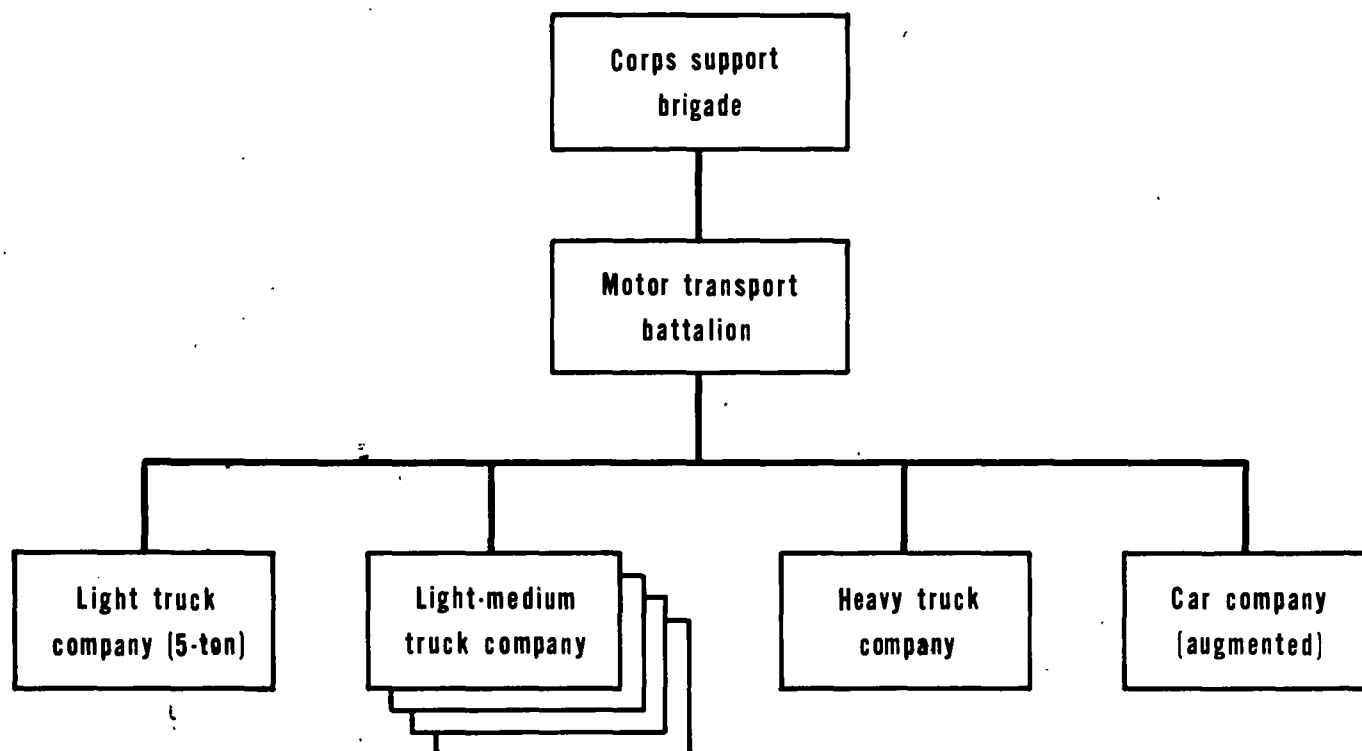
a. The motor transport service for corps (fig 6-4) is under command and supervision of the corps support brigade. It provides an areawide service in support of the brigade's supply and replacement distribution mission and in support of tactical operations when required. It also provides both line haul motor transport and local delivery of personnel and cargo.

b. The corps support brigade motor transport capability is normally employed within the corps and division areas to carry out the movement requirements of the brigade. Companies of the motor transport battalion are dispersed throughout the brigade area; they are located and employed where they can best meet the requirements of the brigade.

c. The motor transport battalion normally operates on an area basis, providing motor transport service as determined by the support brigade MCC in response to transport requirements. The support brigade MCC commits the transport capability of the motor transport battalion and, when movement requirements exceed the capabilities of the battalion, requests motor transport support from FASCOM through the FASCOM MCC.

(1) The motor transport battalion exercises normal command over its subordinate units. It works closely with the MCC and the highway traffic headquarters of the support brigade in committing and routing battalion task vehicles. Companies of the battalion may be attached to using organizations as determined by the corps support brigade commander. Companies not attached to using organizations are retained under operational control of the battalion. Their transport capability is committed by the movement control detachment for use by units having recurring, but not constant, requirements for motor transport.

(2) The car company attached to the motor transport battalion provides taxi and light delivery service for corps and brigade headquarters. It is provided an augmentation of two additional platoons by MTOE; one platoon is equipped with ten 1/4-ton trucks and trailers and the other is equipped with ten 3/4-ton trucks.



Note: All units at TOE strength level 1.

Figure 6-4. Type motor transport service, corps support brigade.

(3) The medium truck companies (petroleum) provide the transport capability for movement of bulk POL requirements in support of the corps (see para 3-17b for methods of attachment).

6-7. Motor Transport Service, COSCOM, Independent Corps

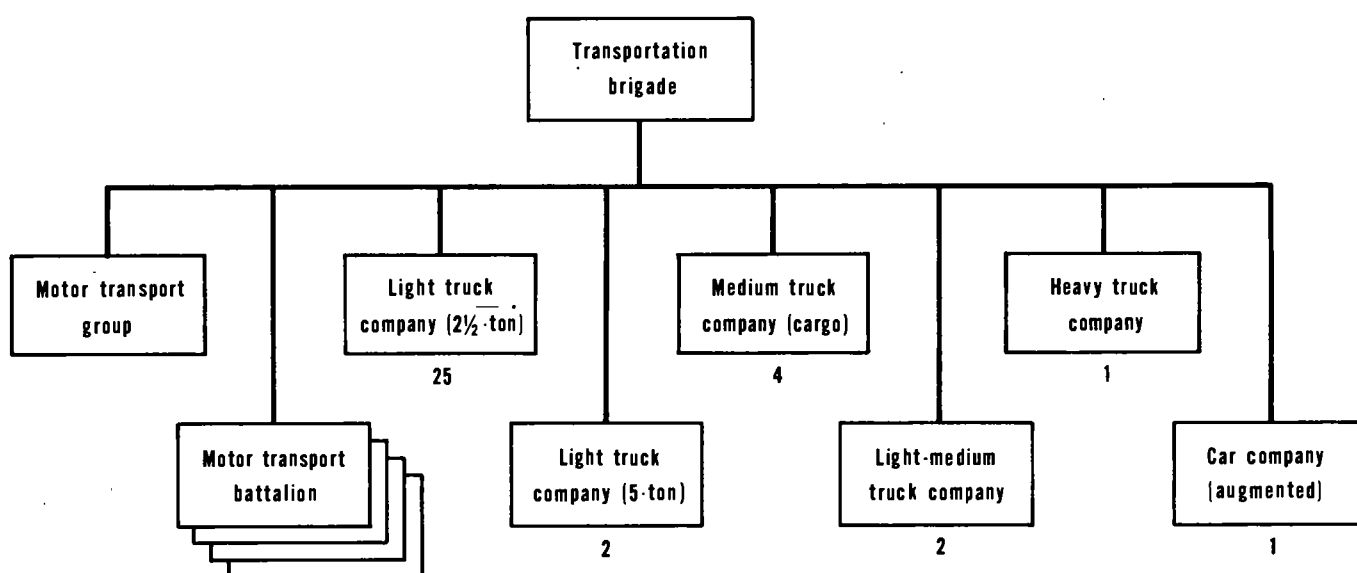
a. When a COSCOM is formed to support an independent corps operation, a transportation brigade headquarters is required to provide transportation support. Depending on the particular theater in which the COSCOM is employed, the transportation brigade will command a variety of transportation units. A type motor transport service, consisting of a motor transport group with four attached motor transport battalions and subordinate task units, is shown in figure 6-5.

b. The COSCOM motor transport service, under command and supervision of the transportation brigade, has generally the same mission with respect to the corps that it supports that the motor transport service, FASCOM, has with respect to the army that it supports, with the following exceptions:

(1) In a COSCOM, the transportation brigade provides a single transportation system which includes elements of the three area transportation systems (TASCOM, FASCOM, and support brigade) normally found in a land mass theater.

(2) In a COSCOM, the motor transport service includes provision for port clearance.

c. Operationally, the methods and procedures for providing motor transport support by the COSCOM motor transport service parallel those of the FASCOM motor transport service.



Note: (1) Number and type of truck companies attached to each battalion depend on battalion mission.

(2) Figures below each truck unit indicate total number of units assigned to force model; all units at TOE strength level 1.

Figure 6-5. Type motor transport service, COSCOM, independent corps.



CHAPTER 7

DUTIES OF PERSONNEL, MOTOR TRANSPORT UNITS

Section I. COMMAND AND SUPERVISORY UNITS

7-1. General

a. This discussion is primarily concerned with the duties of those staff personnel who have a direct interest or relationship with the administration, operation, and training of subordinate units. The duties of those personnel assigned to motor transport units in a nonoperating position (for example, information officer, inspector general, judge advocate, and chaplain) having no direct bearing on motor transport operations are not included in this manual.

b. Further, this discussion is directed toward battalion level operations. However, the duties prescribed herein are equally applicable to those personnel in corresponding positions at group or brigade level. Duties at these higher echelons are more of a directive and supervisory nature rather than operational.

c. The duties of those personnel assigned within the headquarters detachment of the battalion and group or the headquarters company of the brigade correspond with the duties of their counterparts in the motor transport task units (para 7-10 through 7-25).

7-2. Battalion Commander

The commanding officer of the battalion exercises command over the battalion headquarters and headquarters detachment and all attached units. His staff includes an executive officer; an adjutant (S1); an operations officer (S3), who also functions in a security role (S2); a supply officer (S4); a maintenance officer; an enlisted communications chief; and other authorized officer, warrant officer, and enlisted personnel. His duties include the following:

a. Responsibility for the administration, supervision, training, operations, maintenance, and supply of the battalion and for the supervision, direction, control, and coordination of the activities of attached units.

b. Planning for, making decisions, and publishing orders and directives governing personnel, discipline, operations, training, supply, and maintenance matters.

c. Evaluating and estimating needs of the organization.

d. Supervising the execution of orders and inspecting completed assignments.

7-3. Executive Officer

The executive officer is second in command and assists the commander in all phases of his work. He takes command action in the commander's absence. His duties include—

a. Assisting the commander in interpreting, formulating, and disseminating policies.

b. Transmitting decisions of the commander to the appropriate staff officers for preparation of the necessary staff directives.

c. Exercising staff supervision and direction over all operations and training.

d. Formulating and announcing policies for general operation of the staff.

e. Ensuring, by personal observation and inspection, that the orders and instructions of the commander are carried out.

f. Making continuous study of the overall operation of the battalion headquarters and subordinate units.

g. Functioning as the principal coordinating agent of the battalion.

7-4. Adjutant (S1)

The adjutant functions as the commander's principal assistant on matters pertaining to administration. He is the chief of the administration and personnel activities within the battalion and its subordinate units. His duties include—

a. Providing guidance and assistance to subordinate units in administration and personnel matters.

b. Preparing all official correspondence.

c. Preparing and processing all special orders.

d. Maintaining battalion files and records.

e. Preparing and coordinating administrative standing operating procedures (SOP).

f. When applicable, establishing a battalion personnel section and maintaining personnel records for all subordinate units.

g. Providing message center and messenger service as required; making distribution of official correspondence and mail.

h. Preparing the morning report for the headquarters; supervising preparation of the morning report by subordinate units.

i. Inspecting administrative operations and procedures of subordinate units.

j. Advising the commander on personnel and administrative matters.

7-5. Operations Officer (S3)

a. The operations officer is the commander's principal staff assistant on matters pertaining to operations, training, security and intelligence. His duties include the following:

(1) Preparing and coordinating operational plans for the battalion and subordinate units.

(2) Coordinating the planning activities of subordinate units.

(3) Preparing operational SOP's; coordinating SOP's with higher and subordinate units.

(4) Maintaining current roadnet data.

(5) Maintaining operational records and statistical reports.

(6) Establishing and maintaining liaison with supported agencies and activities.

(7) Inspecting operational areas and unit dispatch areas.

(8) Establishing cargo documentation, dispatch, and security procedures.

(9) Maintaining centralized operational control over subordinate units.

(10) Making continuing studies of plans and operations and preparing estimates, plans, and directives based thereon.

(11) Receiving and screening requests for motor transport support (commitments).

(12) Assigning workloads and specific operational tasks to subordinate units.

(13) When required, assuming informal accountability for semitrailer equipment engaged in trailer transfer operations.

(14) Supervising and directing operation of battalion communications services.

(15) Planning and supervising training and troop education programs for the battalion and subordinate units.

(16) Performing training inspections.

(17) Maintaining contact and exchanging information with security and intelligence personnel of higher, adjacent, and subordinate units.

(18) Receiving and distributing intelligence information.

(19) Directing and supervising organizational security operations.

(20) Preparing and publishing security directives.

(21) Making security inspections of battalion and subordinate units.

(22) Preparing and disseminating security and intelligence SOP

(23) In coordination with the executive officer, coordinating and supervising security and defense measures for the battalion and subordinate units.

(24) Advising the commander on operational, security, and training matters.

b. The battalion operations section performs the function of task vehicle commitment. The section receives transportation requests from the senior transport echelon or directly from the movements management center if battalion is the senior transportation command in the area. Requests will provide the following data: type cargo, weight, cube, origin, destination, date movement is required, special handling or outsize load data, and any other information pertinent to the cargo which may assist the transport planners and operators.

(1) Information by the requestor on the type and number of vehicles required to meet an operational requirement is acceptable, but only as a recommendation; the final decision in this matter rests with the battalion operations section and is based on such data as the overall battalion

tasks, the peculiarities of cargo and/or operating conditions in the specific operation, and the vehicles available to meet the assigned battalion tasks. (See appendix P for a type vehicle commitment request.)

(2) Requests are screened and consolidated in the operations section and, after the number and type of vehicles needed to meet operational requirements are determined, the subordinate truck companies are directed to furnish these vehicles.

(3) Unit integrity should be considered and preserved when allocating and assigning commitment tasks to subordinate units by assigning such tasks in company, platoon, or squad size increments. This permits truck units to operate in organizational increments and leads to greater efficiency in operations.

c. The battalion operations section will normally use locally reproduced formats suitable to their operation to both receive requests for vehi-

cle commitments and to pass on commitment tasks to subordinate units. Figure 7-1 offers one type of commitment worksheet which is suitable for both these purposes and can be used to record more than one commitment; it is normally used when requests are received and distributed telephonically. Columns 2 through 5 and column 8 of figure 7-1 are used to receive requests. The remainder of the columns are completed when the tasks for subordinate units are determined and the form is then used to pass on commitments to subordinate units. Figure 7-2 offers a second type of commitment worksheet which may be used to pass, in writing, an individual commitment to a subordinate unit.

d. A vehicle status board may also be maintained in the operations section (fig 7-3). This board reflects the current status and availability of task vehicles assigned to units of the battalion. It provides the operations personnel with a quick and ready reference on the number and type of

VEHICLE COMMITMENT WORKSHEET										
<u>20th Trans Bn (Trk)</u>				<u>24th Sep '70</u>						
(1)	(2)	(3)		(4)		(5)	(6)	(7)		(8)
Commitment number	Date	Origin		Destination		Cargo	Unit	Vehicles		Remarks
		Location	Report to	Location	Report to			Type	No.	
9-108	25 Sep	Q 200	Maj Eason Whse 19 0730 hrs	Q 166 Ludw's b'g	Trans Off Bldg. AB	Rations 77T	86th	12T	7	No return load Refuel at Q166

Figure 7-1. Type vehicle commitment worksheet, truck battalion (suggested format for field use).

20th Transportation Battalion (Truck)
APO 0000Date 24 Sep '70

Subject: Vehicle Commitment

To: C.O. 86th Trans Co. Mdm (Cgo)Commitment No. 9-1081. Vehicles w/drivers 7-12T S&PReport to: Major EasonLocation: Q200, Warehouse 19Time: 0730 Date 25 Sep '70To transport: 77 tons dry rationsDestination: Q166, Ludwig's B'g - Trans Off.
Bldg. A82. Remarks: No return load scheduled; POL
available at Q166 for refueling.C. A. Mitchell

(Signature)

Major S-3

(Rank & Title)

Figure 7-2. Type vehicle commitment worksheet for a single commitment, truck battalion (suggested format for field use).

VEHICLE STATUS BOARD									
<u>20TH TRANS BN (TRK)</u>					<u>25 SEP '70</u>				
UNIT	LOCATION & PHONE	ASSIGNED VEHs.		IN MAINTENANCE		VEHs. AVAIL.	ON DISPATCH	CURRENT AVAIL.	REMARKS
		TYPE	NO.	UNIT SHOP	GS/OS				
26 TH Co.	Obr-Arnstein RED DOG 909	2 1/2-T	60	7	8	45	31	14	
48 TH Co.	Konig Kaserne CENTER 116	5-T	60	4	7	49	44	5	
86 TH Co.	Reidbach VICTOR 311	12-T S&P	60	9	9	42	39	3	
103 ^d Co.	Buchsberg HEAVY 228	50-T STRLR	24	2	0	22	12	10	

Figure 7-3. Type vehicle status board, truck battalion (suggested format for field use).

task vehicles on dispatch and available for dispatch.

e. The operations section may maintain a master commitment board on which all battalion commitments are posted (fig 7-4). This board provides detailed information on current operations and offers a means whereby requests for vehicles may be checked against ongoing movements and operational adjustments made to provide maximum use of vehicles.

f. Both the vehicle status board and the master commitment board must be made locally. Thus, the boards and the information contained on them may be either as basic or as elaborate as the materials and the resources available for their preparation will permit.

7-6. Supply Officer (S4)

The battalion supply officer is the commander's principal assistant for all supply matters. His duties include—

a. Supervising and coordinating all functions pertaining to supply, evacuation, administrative transport, and other related matters within the battalion.

b. Coordinating supply activities with higher headquarters and with supporting services.

c. Preparing and coordinating supply SOP's and directives.

d. Monitoring priorities assigned to requisitions by battalion units, and monitoring submission of requests to supporting supply activities.

e. Consolidating requisitions submitted by subordinate units as required.

f. Receiving supplies, establishing schedules for issue, and issuing supplies as appropriate.

g. Planning, directing, and supervising the supply economy program.

h. Supervising and inspecting subordinate unit supply procedures and records.

i. Establishing and maintaining liaison with supporting services and activities; expediting supply matters.

j. Establishing, supervising, and directing the food service program.

k. Inspecting subordinate unit mess activities and records.

MASTER COMMITMENT BOARD								
<u>20TH TRANS BN (TRK)</u>				<u>25 SEP '70</u> current as of				
COMMITMENT NUMBER	DATE	ORIGIN	DESTINATION	CARGO	VEHICLES		UNIT	REMARKS
					TYPE	NO.		
9-108	25 SEP	Q200	Q166 LUDW'SB'G	RATIONS 77T	12T	7	86TH	NO RETURN LOAD
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Explanation of columns:

- (1) Battalion established commitment number. (9 indicates month; 108 indicates commitment number during 9th month)
- (2) Date of operation.
- (3) Loading point.
- (4) Unloading point.
- (5) Type or description of cargo and tonnage.
- (6) Type of vehicle dispatched.
- (7) Number of vehicles dispatched.
- (8) Unit providing vehicles.
- (9) As required or desired to provide additional information.

Figure 7-4. Type master commitment board, truck battalion (suggested format for field use).

l. Preparing and supervising the maintenance of battalion property records and accounts.

m. Procuring, allocating, and releasing billet areas, buildings, and other facilities used by all battalion elements.

n. Advising the commander on supply, mess, and real estate matters.

7-7. Maintenance Officer

The maintenance officer heads the battalion maintenance section. His duties are normally of an advisory and coordination nature unless a consolidated maintenance facility is established at battalion level. He then assumes an operational role and his duties parallel those of a unit maintenance officer. In his normal role his duties include—

a. Exercising general supervision over the

equipment maintenance activities of subordinate units.

b. Inspecting maintenance activities and procedures and efficiency of operations of subordinate units.

c. Establishing and maintaining liaison with the appropriate supporting services.

d. Coordinating with the battalion supply section for the expeditious supply of parts and tools.

e. Establishing, directing, and supervising procedures for turn-in, receipt, and exchange of repair parts and accessories.

f. Advising and assisting in the organization and development of maintenance procedures in subordinate units.

g. Planning and supervising the maintenance policies of the battalion and subordinate units.

- h.* Preparing the battalion maintenance SOP.
- i.* When directed, establishing and operating a battalion consolidated maintenance facility.
- j.* Advising the commander on maintenance matters.

7-8. Communications Chief

The communications chief heads the communications section. At battalion level this position is filled by an enlisted communications-electronics specialist; at group and brigade level the position is filled by an officer. Duties of the communications chief include—

- a.* Providing the communications service for the battalion headquarters.
- b.* Establishing and maintaining liaison with supporting communications services.
- c.* Directing and supervising the installation and operation of the communications systems of subordinate units.
- d.* Planning, supervising, and directing the signal communications policies of the battalion and subordinate units.
- e.* Supervising and inspecting communications procedures of subordinate units.
- f.* Preparing the battalion communications-electronics operation instructions (CEOI) and communications-electronics standing instructions (CESI).
- g.* Establishing and directing communications

training, maintenance, and repair facilities in battalion and subordinate units.

- h.* Advising the commander on communications matters.

7-9. Operations Sergeant (S3 Office)

The battalion operations sergeant is the truckmaster for the battalion and, as such, his duties warrant consideration. He is the senior noncommissioned officer in the operations section and he supervises the performance of duties of the other enlisted personnel in the section. His duties include—

- a.* Assisting the operations officer and assuring that administrative policies and procedures are properly carried out.
- b.* Coordinating the functions of the operations section.
- c.* Assisting in preparing and maintaining highway reconnaissance data.
- d.* Coordinating daily vehicle availability data, daily vehicle requirements, and daily commitments with dispatch control personnel in the section and in subordinate units.
- e.* Maintaining statistics on operational capabilities and performance of subordinate units.
- f.* Establishing and maintaining liaison with supported units and activities.
- g.* Supervising documentation and reports procedures and performing such other duties as directed by the operations officer.

Section II. TASK UNITS

7-10. General

Basically, all motor transport task units are organized and operate in the same manner—it is only in the type of task vehicles authorized and the capabilities of the units that variances occur. Within the types of companies, the officer and key noncommissioned personnel, from the unit commander on down to the squad leaders and even to the truck drivers themselves, all have the same duties and responsibilities with regard to the administration and operation of the company and the provision of vehicles to meet operational requirements. These duties and responsibilities are discussed in subsequent paragraphs of this section.

7-11. Company Commander

a. The company commander is both the administrator of the company and the director of its operations. He is responsible for the administration, training, supply, mess, security, and discipline of the unit, and he directs and supervises all phases of operation and employment of the unit. In the performance of his duties he is assisted and advised by his officers and key noncommissioned officers. His duties and responsibilities include, but are not necessarily limited to, the following:

- (1) Management of the company and planning, directing, and supervising its operations so that the unit carries out its primary mission of providing an efficient transportation means capa-

ble of meeting the transport requirements imposed by higher authority.

(2) Directing and supervising all matters pertaining to unit administration, supply, and mess management.

(3) Preparing training schedules in accordance with training programs and requirements established by higher headquarters; conducting unit training in conformance with applicable training program to attain prescribed training objectives.

(4) Managing and supervising the assignment, reassignment, and cross training of company personnel.

(5) Establishing maintenance programs and schedules; directing and supervising the maintenance and care of individual and organizational equipment and materiel.

(6) Establishing unit policies, procedures, and standing operating procedures (SOP's) and insuring that the company functions in accordance with these and the policies and directives of higher headquarters.

(7) Establishing and maintaining a high degree of communications security.

(8) Initiating and insuring adherence to the unit safety program.

(9) Maintaining high standards of leadership, discipline, morale, and esprit de corps within the unit.

(10) Keeping unit personnel and higher headquarters informed of the current situation.

b. In carrying out his command responsibilities, the company commander should—

(1) To the maximum extent possible consistent with his other duties, personally plan, supervise, and participate in unit training and operations. This includes instructing in and helping to improve the skills of personnel of his unit and promoting teamwork and esprit de corps.

(2) Perform frequent inspections to insure that his orders are carried out, that routine work details are equitably distributed, that food is properly prepared, and that living quarters are properly policed and maintained.

(3) Stress the principles of supply economy through the proper use, care, and maintenance of equipment.

(4) Be available, when appropriate, to discuss matters of personal or mutual interest with

company personnel; in this line, insure the prompt payment of troops and the proper assignment and utilization of unit personnel.

(5) Supervise and maintain a command information program.

(6) Administer military justice fairly and impartially.

(7) Instruct and cross train subordinates in their duties.

(8) Delegate authority to unit officers and noncommissioned officers consistent with their position and the efficient operation of the company. In this vein, it is general practice to assign the senior platoon leader to the first platoon and to appoint him unit executive officer (additional duty). In this latter capacity, that officer can relieve the unit commander of a number of tasks and duties; he may also take command action in the absence of the commander.

c. The commander's checklist contained in appendix C provides a guide to the commander in the administration and operation of his unit; through its use he may measure the efficiency and state of training of his company. Applicable portions of this checklist may also be used by platoon leaders and key noncommissioned officers of the unit as a guide for those matters within their areas of responsibility.

7-12. Platoon Leader

a. The platoon leader of a transportation truck company has the responsibility for training and discipline common to platoon leaders in any military organization. In addition, the platoon leader is a truck officer who commands an element of a truck unit and is responsible for hauling cargo and/or personnel by motor transport. He is responsible for the proper training and operation of his platoon, including both the technical and the tactical phases. Following the general instructions of and the training schedules established by the company commander, he instructs and supervises the platoon personnel in truck and convoy operations, in driver maintenance, in methods of loading, and in other specified related or general subjects. He is responsible for making certain that the instructions of the company commander are carried out by the members of his platoon.

(1) The platoon leader should train his platoon with a dual purpose in mind. First, he is responsible to the company commander for the development and training of the platoon personnel

as part of the company team. Secondly, he must make the platoon self-reliant since it may be detached from the company and operate as a separate unit. In such a situation the platoon leader functions as commander of an independent detachment and is responsible for the administration, operation, supply, and security of the unit. The platoon leader should be encouraged to act on his own initiative in order to develop and exercise those command and leadership qualities required of his position.

(2) When the company operates as a unit, the platoon leader is available for additional duties which may be assigned by the company commander. These duties include such commonly known assignments as mess officer; supply officer; safety officer; chemical, biological, and nuclear officer; and other less well known duties such as vector control officer, income tax assistance officer, savings officer, and unit historian. In delegating this authority, the company commander retains the responsibility for the proper performance of these duties.

b. Duties of the platoon leader include—

(1) Supervising the training of drivers in all phases of their duties, including vehicle maintenance services.

(2) Conducting inspections of platoon members' individual clothing and equipment for serviceability and availability and of platoon billets and area to assure that proper standards of cleanliness, police, and sanitation are maintained.

(3) Preparing a daily availability report of platoon personnel and submitting a copy to the company operations center as prescribed by the unit SOP.

(4) Making inspections of vehicles dispatched to using agencies to insure their efficient utilization.

(5) Conducting spot checks of loading of vehicles to detect and correct overloading or other improper loading practices.

(6) Patrolling routes traveled by platoon vehicles to insure drivers' compliance with safe driving practices.

(7) Enforcing discipline and internal control during convoy operations.

(8) Conducting the preliminary investigation and preparing reports when platoon personnel are involved in accidents.

(9) Presenting instruction to the platoon or

entire company as prescribed by the unit training schedule.

(10) Organizing defense of the platoon's area of responsibility in bivouac in coordination with other platoons; preparing and submitting sketch of defense plan to unit commander.

(11) Assuming responsibility for those additional duties such as mess officer, security officer, investigating officer, and summary court officer, as may be assigned by the company commander.

(12) Informing the unit commander of all phases of platoon training and operations; discussing with and advising the company commander on matters pertaining to unit administration, mess, supply, training, and operations.

7-13. Automotive Maintenance Technician

The automotive maintenance technician (maintenance officer) is responsible to the commander for maintaining the unit automotive equipment in a high degree of mechanical efficiency. He trains and supervises maintenance personnel, maintains liaison with maintenance support units, exercises sound management practices in the unit shop, assists and advises the company commander in the assignment of capable personnel within his area of responsibility and in the conduct of the various phases of their training, and advises the unit commander on maintenance problems. His duties include—

a. Supervising the routine maintenance and emergency repair of unit mechanical equipment.

b. Supervising the basic and advanced instruction of vehicle drivers and the basic, technical, and military training of maintenance personnel.

c. Organizing the company maintenance shop, assigning repair tasks, and supervising the performance of company mechanics through the motor maintenance sergeant.

d. Conducting inspections to determine equipment repair requirements and the adequacy of repairs made.

e. Preparing the maintenance portion of the company SOP.

f. Establishing and enforcing shop safety practices.

g. Keeping informed of the location and availability of maintenance support units and facilities; insuring that essential replacement parts are available, or are on valid request.

h. Conducting maintenance inspections as directed by the unit commander; making recommendations for the improvement of motor maintenance and/or transport operations as appropriate.

i. Insuring that maintenance records are maintained in accordance with TM 38-750 and other pertinent directives and publications.

j. Advising the company commander and operating personnel on maintenance matters.

7-14. First Sergeant

The first sergeant is the principal noncommissioned assistant to the company commander. He must understand the company's mission and be capable of adjusting the administrative requirements of the company to facilitate the accomplishment of that mission. He calls formations, manages the company headquarters, and coordinates company activities such as mess, administration, supply, and communications. He acts as the intermediary between the company commander and the enlisted personnel of the unit. In the absence of all company officers, he assumes the duties of the company commander. His duties include the following:

a. Supervising the preparation of company correspondence.

b. Supervising the administration of the company headquarters, including files and preparation of recurring and special reports.

c. Planning and posting daily company details, coordinating with operating personnel when necessary.

d. Maintaining duty rosters.

e. Supervising preparation of the morning report and maintenance of the personnel status board.

f. Keeping informed of any changes in the duty status of company personnel.

g. Preparing unit administrative SOP's in coordination with other key personnel (mess, supply, maintenance).

h. Exercising supervisory responsibility over housekeeping, work details, police, maintenance, and construction projects in the company areas. (Normally the truckmaster is responsible for the police, maintenance, and construction in the motor pool.)

i. Assisting the unit commander in advising enlisted personnel on personal problems.

j. Advising the company commander on personnel and morale problems.

7-15. Mess Steward

a. The mess steward works under the supervision of the mess officer and is responsible for the efficient operation of the company mess. He supervises and is responsible for the drawing of rations, proper preparation of meals, conformance of all unit food service personnel with appropriate food handling directives, and efficient management practices in the operation of the unit mess. He coordinates mess activities with the first sergeant, truckmaster, and operating platoon personnel and adjusts the serving of meals to meet operational requirements.

b. The mess steward must work in close cooperation with the first sergeant and truckmaster so that he will know how many meals to prepare and when and where to serve them. In addition to the regular meals, food must be provided for drivers under a wide variety of circumstances and conditions. Meals will be required for drivers who are on duty during normal meal hours, working at night, or who will be away from the company area for extended periods. Hot meals should be prepared and served whenever and wherever possible. With truck companies operating around the clock and over long distances, mess arrangements may be complex. When the company is participating in large scale or extended hauling operations, some assistance and advice may be required from battalion headquarters. Under certain circumstances, additional mess equipment (for example, fire units and tools and equipment for these units) and mess personnel may be needed to meet additional messing requirements.

c. Some suggested solutions to the messing problems imposed by unit operational requirements are—

(1) The operation of a 24-hour mess with four to six servings.

(2) Separate mess detachments accompanying convoys.

(3) Split feeding facilities, part at the unit area and part at loading, unloading, and/or servicing points along established convoy routes.

(4) Reciprocal mess arrangements with other organizations engaged in the operation.

(5) Prepared meals in insulated food containers.

(6) Individual rations of the combat or food packet type.

(7) Box lunches. (These are the least desirable and should not be employed repeatedly.)

d. Other duties of the mess steward include the following:

(1) Supervising the preparation and planning of meals for the company.

(2) Drawing, inspecting, and storing rations.

(3) Insuring that all food service practices meet sanitary standards prescribed by Army directives.

(4) Maintaining cooking equipment, including field equipment, in a serviceable and sanitary condition.

(5) Establishing a duty schedule for mess personnel.

(6) Maintaining the required head count, mess records, menus, and reports.

(7) Accounting to the mess officer for all rations drawn by the unit.

(8) Providing mess crews and equipment to platoons operating independently.

(9) Keeping the unit commander informed of the food service situation.

7-16. Supply Sergeant

The supply sergeant should possess a thorough knowledge of directives prescribing the care and storage of supplies and equipment. He should be well grounded in the fundamentals of inventory accounting methods and procedures for maintaining property books and supporting records. His specific duties encompass the following:

a. Drawing and issuing to authorized personnel those supplies and equipment prescribed by the appropriate table of organization and equipment (TOE) or other authority.

b. Accounting for all equipment drawn by supply personnel except repair parts.

c. Inspecting all nonautomotive equipment or supplies received by the unit for correct quantity and condition and arranging with the supplying agency for replacement or adjustment when appropriate.

d. Maintaining stocks of expendable supplies and controlling their issue.

e. Receiving equipment rendered unserviceable

through fair wear and tear and arranging for its turn-in to the appropriate supply facility; drawing replacement.

f. Supervising the company armorer.

g. Advising the unit commander on supply matters.

7-17. Truckmaster

The truckmaster is the noncommissioned operations assistant to the company commander. He assists the company commander in the coordination, supervision, and control of all essential details incident to the proper operation of Army motor vehicles. The truckmaster may be called on to organize and supervise driver training; train personnel in driver's preventive maintenance, documentation, and loading and securing cargo; select tactical motor pool sites; reconnoiter routes; and assist in the preparation of the motor pool portion of the unit SOP. He must coordinate with platoon leaders, the maintenance sergeant, and the first sergeant to insure full knowledge of personnel status and vehicle availability. Other duties include—

a. Organizing and supervising the unit motor pool, including assistance in preparation of unit maintenance and operational SOP's.

b. Supervising and checking vehicle operations.

c. Assisting, when required, in making inspections.

d. Conducting training and testing of drivers.

e. Reporting evidence of vehicle neglect or abuse or operator carelessness.

f. Supervising, through the dispatcher, all dispatching and routing of company vehicles to insure that dispatching procedures conform to unit policy.

g. Coordinating with the maintenance sergeant and platoon sergeants on all maintenance matters such as vehicles due for scheduled maintenance, vehicles being repaired, and vehicles deadlined awaiting repair.

h. Coordinating with platoon sergeants on driver personnel available for dispatch.

i. Supervising the dispatcher in keeping records necessary for operation of motor vehicles to include operational data and fuel consumption.

j. Assisting the company commander in the preparation of operational reports.

k. Participating in convoy planning and enforcing march discipline during convoy operations.

l. Enforcing safety rules and techniques.

m. Being familiar with civil laws and military regulations pertaining to the operation of individual motor vehicles and vehicles in convoy.

n. Being familiar with standardization agreements affecting motor vehicle operations.

o. Maintaining custody of DA Form 348 (driver qualification record) on unit personnel.

p. Recording safe driving mileage accumulated by unit drivers and advising the company commander of personnel eligible for safe driving awards.

q. Maintaining file of unit accident reports.

7-18. Platoon Sergeant

a. The platoon sergeant is the noncommissioned assistant to the platoon leader. He assists in training the platoon and supervises both its tactical and technical operations. Through his squad leaders he directs the drivers of the platoon in truck and convoy operations, driver maintenance, and loading of vehicles. During the absence of the platoon leader, the platoon sergeant assumes his duties. When the platoon is operating separately from the company, the platoon sergeant performs those duties normally performed by the first sergeant.

b. As the direct supervisor of motor transport operations, the platoon sergeant is first and foremost a truckmaster. He should be an experienced truckman and leader, capable of instructing drivers in the operation and care of military motor vehicles. He must have a comprehensive working knowledge of the capabilities and the proper use of the vehicles of his platoon. He must be thoroughly familiar with the military regulations and civil laws pertaining to the operation of motor vehicles and motor vehicle convoys. He supervises the operation of the platoon vehicles in convoy and is responsible to his platoon commander for road discipline. He must be prepared to relieve the platoon leader as convoy commander when the organization is operating on a round-the-clock basis.

c. When platoons operate independently, the

platoon sergeant assumes the duties of a first sergeant; during the training period, he must learn these duties and must know both dispatching and administrative procedures.

d. To perform his duties and to supervise the jobs of the men under him, the platoon sergeant must be familiar with the following publications:

(1) FM 55-30.

(2) TM 55-310.

(3) TM 21-300.

(4) TM 21-305.

(5) TM 38-750.

(6) Pertinent TM and lubrication orders for unit task vehicles.

(7) Unit standing operating procedures.

e. Other duties include the following:

(1) Coordinating the duties of squad leaders.

(2) Making frequent inspections of vehicles to insure the performance of driver maintenance.

(3) Supervising the performance of driver maintenance through squad leaders.

(4) Coordinating with the maintenance sergeant for the repair of vehicles requiring services beyond the capability of platoon operating personnel.

(5) Coordinating squad training and operational activities.

(6) Coordinating platoon operations with other platoon sergeants and the truckmaster.

(7) Inspecting the platoon defense perimeter in bivouac and taking corrective action when appropriate.

7-19. Squad Leader

The squad leader is directly responsible to the platoon sergeant for the training, discipline, and performance of drivers assigned to his squad. His duties include the following:

a. Training and directing squad personnel in driver maintenance, correct loading techniques, safe driving practices, and maintenance of equipment records.

b. Maintaining a record of availability of personnel and equipment under his control.

c. Inspecting and, when necessary, correcting daily trip records maintained by the driver.

d. Supervising the performance of driver maintenance.

e. Reporting to the platoon sergeant those vehicular mechanical defects which are beyond the repair capability of the driver.

7-20. Motor Maintenance Sergeant

The motor maintenance sergeant works under the supervision of the maintenance officer. As the senior enlisted man in the maintenance section, he is the chief assistant to the maintenance officer and is responsible for the proper operating condition of the unit vehicles. He must have a thorough knowledge of TM 38-750 as it pertains to unit equipment, and be capable of diagnosing mechanical trouble in vehicles and instructing maintenance personnel in corrective action. He must be familiar with appropriate vehicle technical manuals, applicable technical bulletins, modification work orders, and lubrication orders. He must know Army vehicle operation, maintenance, inspection, and repair. He assists in organizing the company shop and operates it in accordance with sound shop procedure. He assigns tasks, implements work schedules established by the maintenance officer, and arranges for the evacuation of vehicles to maintenance support elements when necessary. Other duties include the following:

a. Assigning tasks to maintenance personnel in conformance with schedules and priorities established by the maintenance officer.

b. Diagnosing mechanical trouble or failure and, when necessary, instructing mechanics as to proper corrective action to be taken.

c. Inspecting work performed by unit mechanics.

d. Supervising the recovery, repair, and/or evacuation of disabled and wrecked vehicles.

e. Supervising repair parts receipt, issue, storage, and inventory.

f. Maintaining equipment maintenance records.

g. Training mechanics as required.

h. Advising operating platoon personnel on maintenance matters.

i. Enforcing shop safety practices.

7-21. Mechanics

a. Under the supervision of the motor ser-

geant, the company mechanics perform organizational maintenance and repairs on the vehicles of the company. They perform the monthly and semiannual servicing of the company vehicles in accordance with TM 38-750 and the vehicle technical manuals. They also make repairs and replace parts and unit assemblies within their capabilities. When the company is operating around the clock, it may become undesirable to require the drivers to perform the after-operation maintenance service and the weekly maintenance check, and these functions may be assigned as mechanic responsibilities in the interests of efficiency.

b. Mechanics should become familiar with the duties of the motor sergeant so that they may be prepared to assume his duties in his absence. The duties of the mechanics include—

(1) Examining vehicles for mechanical defects of powerplants and body or chassis features by visual inspection, by road test, and by use of such testing devices as compression gage and neon timing light.

(2) Checking such elements as carburetor and ignition systems, brakes, wheel alignment, tightness of all body and chassis clamps and bolts, electrical connections, and lubrication.

(3) By the use of such automotive mechanic's tools as pliers, screwdrivers, wrenches, gages, punches, and hammers, performing minor repairs and replacing defective or malfunctioning parts and units not requiring disassembly of assemblies or subassemblies.

(4) Limited body work; touching up marred paint; flushing, draining, and soldering leaking radiators; and changing and patching tires and tubes.

7-22. Dispatcher

a. The dispatcher, under the supervision of the truckmaster, operates the company vehicle operations center. He assembles requests for transportation and allocates the task vehicles of the company as required to efficiently meet the commitments placed on the organization. He is normally the custodian of vehicle logbooks when they are not in possession of the drivers. He verifies entries made in logbooks and insures that records are maintained as prescribed by TM 38-750 and local directives. The dispatcher's duties include—

(1) Receiving and filling requests from authorized persons for motor transport support.

(2) Checking the time of departure and return of each vehicle.

(3) Issuing and collecting trip records (DA Form 2400, Equipment Utilization Record; DA Form 2408-1, Equipment Daily or Monthly Log), assuring that they are properly signed by the person for whom transportation was authorized and properly completed by the driver. Reporting discrepancies in trip records to superiors; reporting mechanical failures which require corrective action to the maintenance sergeant.

(4) Maintaining records of vehicle miles traveled, gasoline and oil consumed, trip frequency and elapsed time, type cargo and tons moved, and such other records as may be directed by higher headquarters.

b. On receipt of a validated request for transportation, the dispatcher makes clear notation of the following:

(1) Who is making the request.

(2) What type and quantity of cargo is to be moved.

(3) The number of vehicles necessary.

(4) The length of time the vehicles will be required.

(5) When, where, and to whom drivers report.

c. The dispatcher executes requests for transportation by taking the following actions:

(1) Selecting the vehicles and drivers to be used and completing the initial entries on DA Form 2400, or DA Form 2408-1.

(2) Posting all operational records at time of issue to the DA Form 2401, (Organizational Control Record for Equipment).

(3) Ascertaining that each driver is familiar with his route, destination, and mission.

(4) Maintaining vehicle dispatch board (fig 7-5).

(a) This board is a simple device which facilitates the keeping of records and affords a quick method of locating and determining the availability of vehicles and drivers. It shows, as a minimum, each assigned vehicle number, the driver's name, whether the vehicle is in the motor pool or out, and its destination. Space should be provided on the status board to show, by number, which vehicles are deadlined for

higher level maintenance facilities or in the company shop. Additional information may be shown on the board as desired by the commander.

(b) The board, which is not organizational equipment but must be improvised, usually contains removable labels for each vehicle and each driver. Pegs may be used opposite each label to indicate the status of company vehicles—in, out, or deadlined—using differently colored pegs such as red and green to show vehicles at field and organizational maintenance facilities. More elaborate boards also may be used to show the location of trucks on dispatch, provide space in a remarks column to note their expected time of return, and give other pertinent data regarding their projected availability status.

(5) Receiving operational trip records from drivers on their return, recording necessary data on DA Form 2401.

(6) Examining each operational trip record to assure completeness of action by all concerned.

(7) Initialing operational trip record in space provided and filing these records pending disposition in accordance with current directives.

7-23. Wrecker Operator

The wrecker operator drives and operates the special equipment of the wrecker in recovering and/or salvaging disabled, damaged, mired, or abandoned vehicles. Depending on the type of operation the company is engaged in, he may be on call for emergency duty, he may patrol an established route for assistance to vehicles as needed, or he may act as part of the trail party in convoy operations to render such assistance as may be necessary. He must be able to operate the crane hoist or winch to prepare wrecked or disabled vehicles for towing. He should have the working knowledge of a mechanic and be able to make minor repairs and adjustments to permit return of the vehicle under its own power. In addition, he must be familiar with the operation of light and heavy jacks, block and tackle, crowbars, and automotive mechanic's tools so as to solve various towing and rigging problems.

7-24. Parts Supply Specialist

The parts supply specialist is the supply agent of the maintenance section. He receives, stores, and issues motor vehicle equipment, accessories, repair parts, and tools in connection with the maintenance function of the company. He must be familiar with supply procedures and regulations

DISPATCH BOARD 26th Transportation Company, Medium Truck (Cargo)

1st PLATOON							2nd PLATOON							3rd PLATOON						
VEH. NO.	DRIVER	DEST.	REMARKS	IH	DUT	DL	VEH. NO.	DRIVER	DEST.	REMARKS	IH	DUT	DL	VEH. NO.	DRIVER	DEST.	REMARKS	IH	DUT	DL
1	LEIGH	PORT		☐	☒	☐	2	TROTTER	RHO		☐	☒	☐	3	ROSS	DEPOT		☐	☒	☐
11	ATKINS	PORT		☐	☒	☐	31	IMRIE	RHO		☐	☒	☐	51	HORSLEY	DEPOT		☐	☒	☐
12	BUTRY	PORT		☐	☒	☐	32	EASON	RHO		☐	☒	☐	52	ELDER	DEPOT		☐	☒	☐
13	MCCASKILL	PORT		☐	☒	☐	33	MITCHELL	RHO		☐	☒	☐	53	MORGAN	BN HQ	LOAH	☐	☒	☐
14	TABB			☐	☐	☒	34	TEHHIS	RHO		☐	☒	☐	54	O'HARA	BN HQ	LOAH	☐	☒	☐
15	YOUNG	PORT		☐	☒	☐	35	WHEELER	RHO		☐	☒	☐	55	CARLISLE	DEPOT		☐	☒	☐
16	TORRES	PORT		☐	☒	☐	36	BETTS			☐	☐	☒	56	CONWAY	DEPOT		☐	☒	☐
17	EAMES	PORT		☐	☒	☐	37	HAYES			☐	☐	☒	57	MALAMI	DEPOT		☐	☒	☐
18	GOFF			☐	☐	☒	38	COMPTON	RHO		☐	☒	☐	58	SMITH	DEPOT		☐	☒	☐
19	WILLIAMS			☐	☐	☒	39	DIELEMAN	RHO		☐	☒	☐	59	SAHFORD			☐	☐	☒
20	CLARK			☐	☐	☒	40	HANKINS	RHO		☐	☒	☐	60	KEPPARD	DEPOT		☐	☒	☐
21	KOCIC	PORT		☐	☒	☐	41	QUINBY	RHO		☐	☒	☐	61	ROGERS			☐	☐	☒
22	WHITNEY	PORT		☐	☒	☐	42	ROBERTS	RHO		☐	☒	☐	62	GARALOE	BASE PD	MAIL	☐	☒	☐
23	BEMBRY	PORT		☐	☒	☐	43	BANKIT	RHO		☐	☒	☐	63	DIAMONO			☒	☐	☐
24	CASE	PORT		☐	☒	☐	44	GARCIA	RHO		☐	☒	☐	64	MALAVE			☒	☐	☐
25	PDTEAT	PORT		☐	☒	☐	45	SOWERS	RHO		☐	☒	☐	65	RAHGOS			☐	☐	☒
26	ANDERSON	PORT		☐	☒	☐	46	BROWN			☐	☐	☒	66	GOOD			☒	☐	☐
27	LIVERIS			☐	☐	☒	47	MARTIN	RHO		☐	☒	☐	67	WOOD			☐	☐	☒
28	BALWIN			☒	☐	☐	48	ROLLER	RHO		☐	☒	☐	68	BERGER	BASE PD	MAIL	☐	☒	☐
29	HOFFMAN	PORT		☐	☒	☐	49	SQUIRES	RHO		☐	☒	☐	69	WEEKS	BASE PD	MAIL	☐	☒	☐
30	LOGAN			☐	☐	☒	50	INGRAM			☒	☐	☐	70	JONES			☒	☐	☐

COMPANY HEADQUARTERS					MAINTENANCE SECTION				
4	THOMAS	MAINT		☐	7	WAYNE		☒	☐
5	GLASS	CO		☐	8	STARR		☒	☐
6	SHEAO	SUPPLY		☐	9	BRODIE	POL	☐	☒
					10	SCOTT		☒	☐

DL — MAINTENANCE

ORG. 10 (GREEN)

OS/SS 4 (RED)

Figure 7-5. Type vehicle dispatch board, transportation truck company (suggested format for field use).

governing accountability for Government property. His duties include—

- a. Receiving incoming parts and preparing stock record cards.
- b. Storing parts in bins or rack compartments, arranging items in such manner as will facilitate issue and inventory.
- c. Issuing or distributing parts to maintenance personnel and noting withdrawal on the appropriate bin card.
- d. Taking periodic inventory and preparing requests for items needed to maintain a balanced stock.
- e. Driving the maintenance section's truck.

7-25. Drivers

Well trained and responsible drivers are the backbone of an efficient motor transport unit. They must know their vehicle, driver maintenance, convoy operation, and loading. The driver is responsible for the operation of his vehicle and for the safe and prompt delivery of his loads. He must be familiar with TM 21-305 and the technical manual pertaining to his vehicle.

a. The driver's duties include—

- (1) Operating vehicles in the movement of cargo or personnel between designated points, following the routes and instructions of the dispatcher, platoon sergeant, and company officers.
- (2) Supervising loading of cargo and securing cargo against shifting, inclement weather, loss, and pilferage.
- (3) Completing individual driver trip records, listing such information as mileages, trips, times, oil and gasoline added, and malfunctions noted.
- (4) In case of accident, gathering informa-

tion for and completing Standard Form 91 (Operator Report on Motor Vehicle Accidents).

(5) Performing preventive maintenance on vehicle to which assigned by making visual, manual, or auditory examinations of vehicle before, during, and after operation.

(6) Servicing vehicle with oil, gas, water, and such other lubricants and coolants as may be prescribed; maintaining proper tire pressure.

(7) Keeping vehicle clean and tight.

(8) Changing tires.

(9) Preparing vehicle for operations requiring use of traction devices.

(10) Camouflaging vehicle as required.

(11) Waterproofing vehicle as required.

b. All drivers must be trained and examined for, and possess a valid Standard Form 46 (US Government Motor Vehicle Operator's Identification Card), for the class of vehicle(s) which they will operate. They must know military and local traffic regulations. They must be able to drive in convoy, in blackout, and over difficult terrain; be able to operate the winch of the vehicle when it is so equipped; and have a working knowledge of field expedients and emergency measures which will enable them to deliver their cargo and return to their unit in the vehicle.

c. Company officers should strive during the training period to constantly rotate the driver personnel with the squad leaders and mechanics. Wherever practicable, suitably qualified mechanics and drivers should exchange jobs as a part of their training. By this method the drivers learn the duties of the mechanics and the mechanics improve their skill as drivers. In the event that a man or men are lost to either group, the company is able to adjust personnel resources and to continue operations with some degree of efficiency.

CHAPTER 8

UNIT PERSONNEL MANAGEMENT AND ADMINISTRATION

8-1. General

From an administration standpoint, a company commander has the task of combining four basic resources to accomplish the company's mission: manpower, materiel, time, and facilities. However, he seldom has the men, materiel, or the time he would like to have to perform this mission. Therefore, his resourcefulness will be taxed in using available facilities to the best advantage. The company commander will find DA Pamphlet 600-8 extremely helpful in providing him with information regarding personnel policies, actions, and procedures.

8-2. Personnel Actions

The types of personnel actions performed in the company include assignment, reassignment, and changes in duty of personnel; promotions; reductions; preparing individual sick slips; and submitting recommendations for awards, decorations, and commendations.

a. Assignment, Reassignment, and Changes in Duty of Personnel. The company commander should assign personnel according to their military occupational specialty (MOS). However, there may be circumstances when it may be advisable for him to reassign personnel for better use of their skills or for safety, health, and morale reasons; reasons for reassignment must be properly documented. The following are guides to effective use of personnel:

- (1) Try at all times to pick the right man for a specific job.

- (2) Stimulate the individual's desire to produce through adequate incentives.

- (3) Capitalize on the individual's intelligence, aptitude, and interests through the use of a suitable training program.

- (4) Assign essential tasks to individuals; avoid having them perform obviously unnecessary ones.

- (5) Provide individuals an opportunity for professional development through intelligently

planned assignments and a progressive rotation of assignments.

b. Promotions and Reductions. AR 600-200 specifies the authority of the commander to promote or reduce enlisted personnel. Promotions and reductions, depending on how they are handled, can either improve or damage the morale and efficiency of the company. Promotions should not be automatic nor based on partiality, and the commander must be discreet in making or recommending them. He should follow the underlying concept—promote the best qualified individual. Individuals should be made aware of the qualifications and requirements for the next higher grade and should be encouraged to prepare themselves for a more responsible position.

c. DD Form 689 (Individual Sick Slip). Serving as a communication medium between the commander, the sick or injured person, and the medical officer, the individual sick slip is used to route men reporting for sick call to the dispensary and to inform their commander as to the disposition of each case. The first sergeant or the company clerk usually prepares the sick slip for the sick or injured individual to carry the medical facility. It is completed by the medical personnel and returned to the company commander. Although the sick slip is normally initiated at the sick or injured individual's company headquarters, in cases of emergency it may be initiated at the medical facility. It is not a permanent record but may be a basis for reporting a change in the status of an individual. After accomplishment of its purpose, the sick slip is destroyed except when it must be forwarded to the officer exercising special courts-martial jurisdiction for line-of-duty determination. AR 600-6 prescribes the procedures for preparation and use of the individual sick slip.

d. Awards, Decorations, and Commendations. The commanding officer may recommend company personnel for awards, decorations, and commendations. His recommendations are prepared according to AR 672-5-1 and submitted to the

next higher headquarters. The commander, however, is authorized to award letters of commendation to personnel for outstanding performance in their work, suggestions for improving operations, etc. Copies of these commendations should be filed in the individual's personnel file.

e. Qualification Records. The commander has available to him certain records which aid in the conduct of personnel actions. Duties performed and skills acquired are recorded on the DA Form 20 (Enlisted Qualification Record), and the DA Form 66 (Officer Qualification Record). The commander should use these and other records to determine training required and duty assignments to be made. These records may be maintained at the next higher headquarters or by the supporting personnel service center. The company commander should, however, periodically review them to keep himself informed of the qualifications of personnel under his control. AR 600-200 and AR 611-103, respectively, cover the preparation and maintenance of enlisted and officer qualification records.

8-3. Recordkeeping

Records kept in the company include personnel rosters and reports, duty rosters, policy file, and unit journal and history.

a. Military Personnel Rosters and Reports. Personnel rosters and reports that are provided to the unit commander by the supporting personnel office are discussed in DA Pamphlet 600-8.

b. Duty Rosters. For the purpose of ensuring an equitable distribution of duty assignments, DA Form 6's, (Duty Rosters), are normally maintained at each company by the first sergeant. Separate rosters will be kept for each duty requiring the detail of individuals. Such duties include kitchen police, guard, charge of quarters, and other recurring details. Whenever practicable, consolidated workday-weekend-holiday rosters may be maintained. Only names of those eligible individuals required to perform the duty will be entered on the roster; names are initially entered by grade, additions to the roster are posted to the bottom of the form regardless of grade. AR 220-45 prescribed the procedures for maintaining duty rosters.

c. Policy File. While not mandatory, a policy file should be maintained in the company. Examples of documents contained in such a file include a summary of decisions, directives from higher headquarters, record of experiences, and other in-

formation to serve as a guide for company personnel. The policies may be in the form of brief notes, plans, or directives and may include charts and tables.

d. Unit Journal and History. Prepared daily, the unit journal gives a chronological record of events. The preparation and maintenance of a unit journal and history may be regarded as a command function, depending on the specific command or theater army policy.

8-4. Reports

Included in the reports required to be submitted by the company are two of prime importance: morning reports and conduct and efficiency ratings.

a. Morning Reports. Prepared daily by the company clerk, the DA Form 1 (Morning Report), reflects day-to-day strength of the company, transfers, assignments, promotions, reductions, and other changes in the status of company personnel. AR 680-1 prescribes procedures for preparation of the morning report. DA Form 2475 (Personnel Data Card), maintained by the unit clerk, contains information which assists him in preparing the morning report.

(1) Each morning report covers the activities of the company for the 24-hour period from 0000 hours until 2400 hours. The report will not be prepared prior to the close of the morning report day but will be prepared before 1000 hours the following day. When the day of preparation of report(s) for a preceding day(s) falls on a day other than a normal workday (Sunday or holiday) the morning report(s) may be prepared the next succeeding workday.

(2) Accuracy and legibility in reporting are of prime importance. Errors in data have a far-reaching effect. An erroneously prepared report may result in additional administrative work at each level from the company to Headquarters, Department of the Army. The report will be prepared on a typewriter whenever possible. Customary handwriting is not authorized; however, entries may be made with blue-black ink or with indelible pencil in block capital letters. The number 1 copy must be dark enough to permit micro-filming.

(3) The abbreviations authorized by AR 310-50 will be used whenever practicable. Punctuation marks are not used unless they are necessary for clear meaning. Erasures are not permitted. Errors made during preparation are cor-

rected by lining out the incorrect entry or by retyping the entire report. Each lined out entry is initialed by the officer authenticating the report. To correct an error on a previous report, a corrective remark is made on a subsequent report under the appropriate group heading. The correction is posted in pencil on the company file copy of the incorrect report, and the date the correction was made is indicated. If information to be recorded is received after the morning report has been forwarded, this information is included in the next report as a delayed entry. A delayed entry will show the effective date in the remark itself, but it will not be prefaced by the term "Delayed Entry" or any similar term.

(4) Within the United States, morning reports are usually not classified. Reports submitted within theaters of operations may be classified. Classification, when necessary, will be in accordance with current directives from higher headquarters.

b. Conduct and Efficiency Ratings.

(1) These ratings provide information on an individual for use in conjunction with other available data as a guide or criterion in determining eligibility for certain personnel actions. Such actions include good conduct medal awards, assignments, promotions, and types of discharges. Conduct ratings are based on demonstrated reliability, good moral influence, sobriety, and obedience. Efficiency ratings are based entirely on job performance. Each type of rating covers a specific period and should not be influenced by previous reports rendered on individuals.

(2) The DA Form 2166-4 (Enlisted Efficiency Report) provides a job evaluation of enlisted personnel throughout the Army. It is designed to rate the man's characteristics, advancement potential, and recommendations for career development. The report is used as an essential tool in determining the enlisted man's overall value to the service as compared with all other personnel holding the same military occupational specialty (MOS) and skill level. Information on preparation and control of this report can be found in chapter 8, AR 600-200, and on the report form.

(3) The unit commander is responsible for making sure that all company officers are familiar with the rating system for enlisted men, the rating criteria, and the impact of conduct and efficiency ratings on the careers of individuals being rated, and that they understand the vital necessity for rendering fair and impartial ratings

to preclude injustice to both the rated individual and the Government. The commander is also responsible for ensuring that each enlisted person in his command is aware of the effects of the ratings on appointments, assignments, awards, and ultimately the type of discharge he will receive upon separation from the service.

8-5. Administration

Unit mail service, unit fund, mess, and inspections are included in the administration functions requiring supervision by the company commander.

a. Unit Mail Service. The unit mail service should be so organized that personal and official mail is received and dispatched efficiently and promptly. The unit postal officer is responsible for the efficient operation of this service. He is a company officer who has been assigned this additional duty on unit orders by the company commander. A unit mail clerk and at least one alternate will be appointed on DD Form 285 (Appointment of Military Postal Clerk, Unit Mail Clerk, or Mail Orderly) by the company commander to assist the unit postal officer.

(1) *Unit postal officer.* Specific responsibilities of the unit postal officer include active supervision of unit mail clerks and explaining AR 65-75 to them and making sure that mail is delivered promptly. He is responsible for checking and accounting for registered, insured, and certified mail daily, and for inspecting the unit mail room weekly to insure compliance with AR 65-75. Other responsibilities of the unit postal officer include reviewing the personnel locator directory to insure that it is up to date; reviewing postal records; insuring that mail is handled in the proper manner; and reporting promptly to the unit commander any known or suspected cases of loss, theft, destruction, or other mishandling of mail.

(2) *Unit mail clerk.* Duties of the unit mail clerk include safeguarding mail until delivery or distribution is made, delivering mail promptly, assisting and advising unit personnel on postal matters, maintaining a personnel locator directory file, and maintaining mail records in accordance with AR 65-75. A unit mail clerk may be held responsible for any loss brought about by his failure to properly handle mail entrusted to his care.

b. Unit Fund. The unit fund, a nonappropriated welfare fund, is established in a unit to enable the unit commander to procure articles and services not available from appropriated

funds and which are for the welfare of the military personnel of the unit. The unit fund is administered and supervised by a unit fund council appointed on orders by the unit commander. The council will be composed of at least one commissioned officer and two noncommissioned officers and/or specialists E-4 and above. The commissioned officer and enlisted representatives on the council must be members of the unit. The company commander will designate a commissioned officer or warrant officer of the unit to serve as custodian of the fund. For guidance on authorized disbursements from the unit fund, see paragraph 3-12b, AR 230-1.

(1) *Unit fund council.* The council will meet at least once a quarter, or more frequently when necessary, at the call of the president. A member of the fund council is designated by the unit commander to serve as president. Proceedings of council meetings will be maintained and signed by a member of the council who has been appointed by the unit commander to serve as recorder. The duties of a unit fund council are outlined in AR 230-1. The duties of a recorder are outlined in paragraph 3-6c, AR 230-1.

(2) *Unit fund custodian.* The custodian is responsible to the council for fund administration and establishing internal control procedures. For additional guidance on the duties and responsibilities of a unit fund custodian, see paragraph 3-7a(2), AR 230-1. Unit fund records are maintained in accordance with instructions contained in AR 230-21.

(3) *Sources of unit fund income.* The primary source of unit fund income is the Army portion of profits derived from the operation of the Army and Air Force Exchange Service and the Army and Air Force Motion Picture Service. These profits are distributed to unit funds on a monthly basis through the central post welfare fund. Other authorized sources of income include proceeds from the sale of fund owned property; grants from command welfare funds; contributions and donations voluntarily offered by individuals, business firms, civilian organizations, benevolent and fraternal societies, or any association outside the military department (para 1-37, AR 230-1); interest on savings deposits in authorized banking facilities; and investments in United States Government securities and Federal Government securities (AR 230-1).

c. *Mess.* Two functions must be performed if the unit mess is to be operated efficiently. The first

involves the administrative actions required to obtain rations, account for meals served, and account for cash collected for meals. The second involves the actions necessary to prepare and serve food and to maintain the cleanliness of the mess area. The individual who supervises these functions is the mess officer, a company officer who has been assigned this additional duty by the company commander. The individuals who implement these functions are the mess steward, cooks, and kitchen police personnel.

(1) *Mess officer.* Responsibilities of the mess officer include obtaining required subsistence, mess equipment, and operating supplies and making frequent inspections of the dining facility. These inspections are made to insure that all subsistence is stored properly; that the menu is being followed and only authorized substitutes are used; that the DA Form 3034 (Cooks' Worksheet) is being followed for details in preparing, cooking, and serving food; that all mess equipment is properly maintained and properly used; that all aspects of sanitation are enforced; and that records and accounts are kept in accordance with pertinent regulations. The mess officer supervises the mess personnel through the mess steward. (See Commander's Checklist, appendix C, for a further discussion of the mess officer's responsibilities.)

(2) *Mess steward.* The steward is responsible to the mess officer for the operation and control of the dining facility. Specific duties of the mess steward include inspecting mess personnel, equipment, and buildings for cleanliness and insuring that the dining facility and equipment are kept sanitary; preparing cooks' worksheet for use by the cooks in preparing, cooking, and serving food; preparing estimates for the number of rations required; supervising the preparation, cooking, and serving of food; recording amounts of money collected for meals from persons subsisted in the mess; preparing and maintaining accounts, records, and related reports; and reporting breakages to the mess officer to enable him to determine responsibility. (See Commander's Checklist, appendix C, for a further discussion of the responsibilities of the mess steward.)

(3) *Cooks.* The primary duty of the cooks is to prepare, cook, and serve the food. Cooks are assisted in their duties by the cooks' apprentice. The cooks' detailed duties include following the recipes when preparing each food item and observing the proper cooking time and temperature for the various foods; preparing the correct

quantities of food; observing the rules of personal hygiene, dining facility sanitation, and safety precautions when preparing food; and studying the cooks' worksheet to insure the timely preparation of food. (See Commander's Checklist, appendix C, for a further discussion of the cooks' responsibilities.)

(4) *Kitchen police.* Personnel are provided by company roster to the mess steward to perform many of the cleaning tasks and other functions required in operating the mess. These duties include cleaning the dining room, kitchen, and storeroom areas; washing dishes, trays, pots, pans, and tableware; preparing fruits and vegetables for cooking; and collecting and disposing of waste material.

8-6. Inspections

a. Inspections are the means by which commanders ascertain the efficiency of units, the serviceability of equipment, and the overall readiness and capability of the unit to perform its assigned mission. Inspection may be directed by command authority at any level from company to Department of the Army. The type, scope, and conduct of the inspection will vary with the information desired by the initiating commander.

b. In addition to the guidance provided in appendix C, which may be used by unit officers and noncommissioned officers in the conduct of inspections of a unit and its facilities, appendixes D, E, and F offer guidance for inspecting personnel in ranks and for inspecting motor vehicles and trailers assigned to a unit.

c. The various types of inspections, and their scope, include the following:

(1) *Command inspections.* Command inspections are concerned with all phases of unit operations and will include personnel; individual and organizational equipment; and the company (or battalion) area, mess, supply, administrative records, and operational procedures. These inspections may be either formal or informal.

(a) *Informal command inspections.* These inspections are conducted frequently and without advance notice. They will not interrupt scheduled training or operations. Such inspections serve to keep the commander informed as to the actual state of readiness of his unit and enable him to take immediate corrective action to eliminate deficiencies.

(b) *Formal command inspections.* Formal

command inspections are announced in advance to provide time for preparation. Periodic inspections of this type assist the commander in maintaining high standards of training and discipline and in ascertaining the effectiveness of his staff and subordinate commanders.

(2) *Spot check inspections.* These inspections are conducted for the purpose of ascertaining the adequacy and effectiveness of organizational maintenance. These inspections are most effectively performed by technically qualified personnel on equipment wherever it is used. Procedures, scope, and frequency of spot check inspections are prescribed in appropriate 750-series Army regulations.

(3) *Tactical and training inspections.* These are conducted by personnel in the chain of command above the unit being inspected to improve combat efficiency, to ascertain the state of training and the degree of operational readiness of units, and generally to further Department of the Army training programs. Details pertaining to the conduct of these inspections are contained in AR 220-1.

(4) *Inspector general inspections.* An annual general inspection of command and activities is performed once each fiscal year by the inspector general to provide the major commander with an impartial appraisal of a unit. It covers all phases of administration, supply, maintenance, and operations and aids the commander in detecting problem areas and taking corrective action.

(5) *Technical inspections.* These inspections are performed on major items of equipment to determine their condition and recommend necessary corrective action. Personnel performing technical inspections follow procedures contained in technical manuals, technical bulletins, and other publications applicable to the equipment being inspected.

(6) *Maintenance assistance and instruction team (MAIT).* This team is part of a program to aid a commander in determining the status of maintenance operations in his unit without undergoing an inspection and its accompanying gigs and reports. Instead of an inspection, the MAIT, which is made up of specialists on equipment, maintenance records, maintenance management, supply, and related areas, visits a unit, *surveys* its maintenance operation, and then offers assistance and instruction to remedy any problems noted.

8-7. Military Pay

a. The prompt and accurate payment of unit personnel is a joint responsibility between the servicing finance officer and the unit commander.

b. To insure that personnel are promptly and accurately paid, the commanding officer is responsible for—

(1) Providing a class A agent officer when necessary.

(2) Answering questions for subordinates regarding pay matters and referring difficult or technical questions to the finance officer.

(3) Reviewing and approving, if authorized under the conditions specified in paragraph 1-20, AR 37-125, enlisted member's request for partial payments. When approving a member's request for partial payment for emergency reasons, the commander should consider the two-payday concept of Joint Uniform Military Pay System (JUMPS)-Army; that is, payment on the 15th and the last day of the month, and approve the request only when the emergency stated on the request indicates that hardship exists which will result in privation to the member or his dependents. Except for partial payments requested in accordance with paragraph 1-20, AR 37-125, a partial payment may not be approved in an amount which exceeds the amount of pay due the member from Finance Center, US Army (FCUSA), at the end of the month in which the request is made.

(4) Making final approval or disapproval of subordinates' requests for emergency payment of withdrawals from the Savings Deposit Program.

(5) Reviewing and approving or disapproving all advance of pay requests for enlisted members in pay grade E-1 through E-6.

(6) Preparing, as required, a letter of transmittal for transmission of pay data through the unit personnel officer to the servicing finance office. A copy of each daily morning report entry reflecting a change in a member's pay account is listed and attached to the letter of transmittal.

(7) Contacting the finance officer whenever a member of his unit reports that a paycheck has not been received from FCUSA. The finance officer will determine the proper action to be taken in each instance.

c. Detailed information on pay responsibilities should be obtained from the servicing finance officer and DA Pamphlet 35-1.

d. Class A Agents.

(1) Class A agents are appointed on special orders or letter orders by local commanding officers or higher authority to act as agents for finance and accounting officers.

(2) Specific instructions concerning responsibilities and duties of class A agents are contained in FM 14-8.

CHAPTER 9

TRAINING

Section I. UNIT TRAINING

9-1. Objective

The prime objective of training is to produce a well trained, integrated company ready for field duty. The company must coordinate its efforts with the efforts of other units of the battalion in performing its mission. It must be brought to a high state of readiness through an intensive, thorough, and rapid training program. Training of the company is governed by the appropriate Army training program (ATP) listed in DA Pamphlet 310-3. The training proficiency of the unit is determined by the appropriate Army training test (ATT) listed in DA Pamphlet 310-3.

9-2. Responsibility

Training of a company is directed toward a specific training objective usually determined by higher headquarters. The company commander supervises and directs the training of his unit toward that objective. He sees that prescribed training assignments are completed and that training schedules and required status reports are prepared and submitted. Training within the unit must be carefully planned and closely supervised. Training facilities available to the unit must be exploited to the maximum so that the highest proficiency can be attained. Individuals must be trained in their military occupational specialty (MOS) through a carefully developed and well coordinated program involving unit schools, service schools, and on-the-job training. The training program should be designed so that platoons and sections operate under their own leaders.

9-3. The Training Cycle

a. Training is coordinated and accomplished through completion of a training cycle. This cycle begins with the basic training of the individual and advances successively through phases of individual and unit training. The ultimate result is the successful completion of an ATT by the unit.

b. The minimum training schedule for motor transport units is provided in ATP 55-11 and current Department of the Army mobilization training programs and training directives. These publications furnish the commander with a guide outlining the essential training required for a balanced training program.

c. Training must be a continuous, comprehensive effort aimed at producing a smooth running organization capable of performing sustained operations under varying conditions with maximum speed and efficiency. All individuals must be trained both as soldiers and technicians.

9-4. Training Coordination

All unit training is coordinated with the program of the next higher command to insure adequate preparedness in conformance with established schedules. The planning responsibility of the company commander generally concerns the necessary adjustments and administrative details to meet the requirements of the local training situation (FM 21-5). He prepares weekly training schedules showing training to be accomplished each day, subjects to be covered with appropriate references and training aids, personnel directly responsible for training periods, times and training areas, and designation of uniform and equipment. In planning for training, the commander insures that appropriate texts and training aids are available, that suitable training areas can be provided, and that an effective program is initiated for the selection and training of instructors.

9-5. Individual Training

The individual training part of the unit training program consists of two phases: basic military training and advanced individual training, each of an 8-week duration.

a. *Basic military training* prepares the individ-

ual for integration into an operational military unit as an essential element of that organization. This training includes such subjects as first aid, dismounted drill, care and use of individual weapons, and the fundamentals of infantry tactics. Although this phase of training is normally completed before the soldier is assigned to the unit, the commander must be assured through tests and inspections that a high degree of proficiency in the basic subjects is maintained throughout the unit. This may require scheduled periods of retraining as well as reviews conducted as concurrent training.

b. Advanced individual training prepares the individual to perform a specific function or duty so that he may be assigned to a specific table of organization and equipment (TOE) position. This training may be conducted in unit schools, by on-the-job training, or in resident specialist courses conducted at service schools. Normally, the decision as to type and location of this training is based on the degree of specialization required. Upon completion of the prescribed training, the soldier is awarded an MOS and is considered qualified to fill the appropriate TOE position.

9-6. Unit Training

The objective of unit training is to develop a closely knit organization capable of performing as a highly efficient team in the accomplishment of the unit mission. This training is progressive in nature; initially, it consists of a 7-week period of basic unit training which treats the more simple operational techniques and procedures and is directed toward the operations of the squad, platoon, and functional sections of the headquarters. The second phase of unit training consists of a 2-week advanced unit training period which involves the operation of the entire unit.

a. Basic unit training gives the individual the opportunity to practice acquired skills and serves to demonstrate the advantages of team play and the constant interdependence of members of the unit. Supervisory personnel must be constantly alert and must use ingenuity and imagination to prevent the formation of habits that may jeopardize the success or security of the unit in actual operations.

b. Advanced unit training emphasizes the efficient accomplishment of motor transport missions under difficult field conditions. The unit operates in the field with its organic equipment. Every available aid is employed to add realism to

this phase of training. As unit training progresses to its final stages, field exercises will simulate operations under the most adverse conditions. Aggressor attacks, guerrilla operations, sabotage, and conditions of nuclear warfare are simulated to impress personnel with the importance of adequate security measures, defensive organization, and proficiency in basic military tactics. Training in field expedients, recovery operations, and improvisation should be conducted concurrently to develop the unit's capability to perform its primary missions.

9-7. Army Training Test (ATT)

The ATT is the culmination of the training cycle. It is a controlled 3-day field problem designed to measure the degree of the proficiency of a unit and to indicate any need for further training in specific areas. It is normally administered, observed, rated, and critiqued by staff officers of the battalion headquarters and such additional assistants from other units of the battalion as is deemed necessary.

9-8. Operational Readiness Training

a. This training is an extension of that which a unit undergoes in preparation for its ATT. It consists generally of training in those mandatory subjects established by Armywide directives and regulations, in subject material as directed by the commander, or higher territorial command echelons, which is applicable to the mission and operation of the unit undergoing training, and on-the-job training. The purpose of this training is to maintain the mission capability of a unit in a combat environment.

b. Periodically units engaged in operational readiness training undergo testing comparable to that received in an ATT. This operational readiness training test (ORTT) is administered on completion of the operational readiness training cycle which is currently established at 13 months. The test is generally of a 24-hour duration and closely follows the appropriate ATT for the unit being tested.

c. The ORTT follows no established pattern, but will be designed to evaluate both the technical and tactical proficiency of the unit being tested. The major commanders who are responsible for administration of the test may exercise their discretion in deciding which portions of the ATT should be included in and/or emphasized in the ORTT.

9-9. Troop Unit Schools

Troop unit schools may be conducted at battalion level when personnel of subordinate units are trained in groups, or the schools may be conducted within the individual units themselves. Factors used in determining the type of troop unit school to be conducted are the availability of qualified instructors, number of personnel to be instructed, and location of units. In troop unit schools, the commander of the unit conducting the school is responsible for the training conducted in the school. A prime example of the battalion level troop unit school is the driver training and testing facility which may be conducted by battalion for its subordinate units. The availability of such a facility relieves subordinate commanders of the requirement to conduct driver training in the unit and assures a uniform training for all potential drivers.

9-10. Noncommissioned Officer Training

Noncommissioned officers should be able to instruct in the field in which they are technically qualified. They should be given the opportunity to exercise command functions so that they may develop leadership qualities, initiative, and a sense of responsibility. Troop schools, such as those set up by local organizations or higher headquarters, are useful in instructing noncommissioned officers in the duties and responsibilities of their grade and in teaching them correct training and instruction methods and procedures. Noncommissioned officer training may be carried on both during duty hours and in off-duty classes.

9-11. Cadre Training

Because a company may be called on to furnish a cadre, the training of cadre understudies is a continuous part of the company training program.

a. Cadre Selection. Before being designated as a member of a cadre, an individual should be thoroughly trained and should be qualified both to perform his duties and to aid in the training of the company.

b. Special Training. Training of cadre understudies should be aimed at producing alert, aggressive, and energetic individuals with an overall knowledge of the specific fields covered in the training and operation of a company. To produce the best instructors for cadre assignment, special emphasis should be placed on training in methods of instruction.

9-12. Training Operations

It must be recognized that training operations depend on local facilities and a number of variables, including training status of the unit, status of equipment, and time available for training. Unit training programs should therefore be developed with priorities assigned to those elements considered essential to unit proficiency. Mobility test exercises should also be considered. These may be conducted by higher headquarters to observe and evaluate actions by organizations and units in implementing readiness plans. These test exercises supplement ATT's which are conducted to evaluate the proficiency of the unit, and also supplement field exercises conducted as a part of the normal training program.

9-13. Counterguerrilla Warfare Training

Training for operations against guerrilla forces will be integrated into all phases of the normal training program for all units. Individuals must be thoroughly indoctrinated and trained to understand that the primary difference between the tactics and techniques of conventional warfare and those of counterguerrilla warfare is the nature of opposing forces. Unit training must emphasize that units may be required to conduct operations against guerrilla forces operating independently. In addition, all units must be prepared to conduct operations against conventional forces supported by an active guerrilla effort. Units must be trained to be constantly alert to the possibility of guerrilla attack against combat, combat service, and combat service support elements.

9-14. Communications Training

Individuals who operate communications-electronics (C-E) equipment, whether as a primary duty or on an occasional basis, must be thoroughly trained in communications security (COMSEC) and electronic counter-countermeasures (ECCM). Such training is essential for maintaining effective use of C-E equipment associated with motor transport operations. COMSEC/ECCM training must stress the fact that the enemy is capable of detecting and analyzing friendly use of C-E equipment. The individual operator must be alert to the possibility of enemy attempts to deny or degrade the use of C-E equipment and he must be able to take the appropriate steps to minimize the effects of such attempts. See FM 24-18, FM 32-5, and FM 32-20 for details on COMSEC/ECCM training.

Section II. DRIVER SELECTION AND TRAINING (TM 21-300 AND TM 21-305)

9-15. Driver Responsibilities

The military driver has two fields of responsibility with regard to the vehicle to which he is assigned: operation and maintenance.

a. Operational Responsibilities. His operational responsibilities include the mechanical operation of his assigned vehicle, observance of traffic laws and regulations, and adherence to military orders and instructions at all times to insure the smooth and efficient operation of military movements. The driver also supervises the loading of his vehicle, provides the cargo load with adequate protection from the weather, and properly lashes the load. His basic driver training develops the required skill in actual vehicle operation such as making smooth starts and stops, selecting the proper gear ratios for various speeds and loads, and judging speeds and distances. This skill must be coupled with a knowledge of traffic laws and regulations to insure safe highway operation under normal conditions. Since a large percentage of military movements are made in formation, the driver must also be thoroughly familiar with the mechanics of convoy operations and control and must be prepared to comply with orders and instructions of the commander. He must know and understand his responsibility for the completion of trip records (DA Form 2400 and DA Form 2408-1) upon completion of daily operations.

b. Maintenance Responsibility. The driver's maintenance responsibility is primarily preventive. By performing daily and other scheduled inspections and services properly and reporting on DA Form 2404, any deficiencies noted, the driver makes it possible for organizational mechanics to correct defects before they necessitate major repairs. Many minor defects can be remedied by the driver on the spot.

9-16. Driver Selection

The purpose of driver selection is to eliminate those men who are unfit as motor vehicle operators and to select the best prospects from the remaining driver candidates for further testing and training. Commanders or personnel concerned with driver selection should constantly strive to make sure that only men with the proper qualifications are selected to be trained as drivers. In making the selection, consideration must be

given to the individual's physical, temperamental, and mental characteristics; his historical background, to include education and driver experience; his attitude; and the needs of the organization. Selection of personnel based on sufficiently high standards only will not suffice. Personnel selected must *want* to be drivers—to learn and appreciate the value of and the necessity for good driving and good maintenance habits.

9-17. Driver Testing

a. The driver testing program for vehicle operators falls into three phases.

(1) Tests of physical aptitude to determine whether the individual can meet certain standards deemed essential for safe operation of motor vehicles.

(2) A written examination designed to test operator knowledge of rules of the road and safe driving which cannot normally be included in a road test.

(3) A drivers' road test to determine the ability of a driver to operate a motor vehicle under normal traffic and terrain conditions.

b. The testing program for vehicle operators cannot be completely separated from the training program. In many instances, test results will prove most valuable in providing information concerning an operator's deficiencies or an area in which he may profit by further or special training.

c. DA Form 348 (Equipment Operators Qualification Record), provides a permanent record of the test results of the individual driver. This form contains information obtained from an interview with the individual and from the records of his individual test scores. The DA Form 348 becomes a part of the individuals' permanent file.

9-18. Driver Training

a. Training of drivers must be thorough and is a continuing process during their assignment to a unit. Drivers must learn to apply the principles of "defensive driving"—they must be alert at all times and through their actions and reactions be able to avoid and/or prevent accidents.

b. It is desirable that driver training be conducted at the highest organizational level possible so that maximum use can be made of qualified

instructors and facilities available. All training should be supervised by qualified motor transport personnel. The training provided should be governed by the type duty to which the operator is or will be assigned.

9-19. Driver Supervision

a. Driver training and examination does not stop with the issuance of a motor vehicle operators' permit (US Government Motor Vehicle Operator's Identification Card, SF 46). To maintain

driver efficiency, training and examination in the form of driver supervision must be continuous.

b. Driver supervision is the responsibility of all officers and noncommissioned officers of a truck unit. These personnel must know motor vehicle operations; they must be able to recognize instances of vehicle abuse or misuse, know when and where they are most likely to occur, and be able to take proper corrective action. (See appendix G for further information on small unit and driver training.)



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CHAPTER 10

SAFETY

10-1. General

a. Because accidents and injuries can seriously hamper company operations, an effective safety program is essential; this safety program should be in consonance with the provisions of DA Pamphlet 385-1. The safety program should encompass all phases of operation including not only safe driving practices but also shop safety and general safety procedures. Thorough training of personnel in the proper handling of materiel and in precautions to be taken when handling or storing hazardous and dangerous materials is essential. All safety rules and practices should be observed by personnel handling tools and operating machinery. In addition, personnel should be taught the importance of being constantly vigilant so as to detect potential hazards. They should be encouraged to take remedial action when possible to reduce or eliminate danger, and they should also be required to promptly report all accidents and safety hazards.

b. This chapter discusses the unit safety program; however, its provisions are equally applicable to the battalion level safety program. The appointed battalion safety officer may head the battalion safety committee which monitors both the battalion program and the programs of subordinate units. He is responsible for the preparation and direction of the battalion safety program and for the adherence of subordinate units to its policies and directives. He assists and supervises unit safety officers in the planning and implementation of the safety program, and in all phases of safety training, enforcement, and education.

10-2. Safety Committee

To implement a safety program, a unit safety committee should be established. This committee is headed by the appointed unit safety officer who is responsible for supervising and coordinating all safety activities. Other members of the committee should consist of designated platoon and section personnel, both commissioned and non-commissioned. The committee should meet at reg-

ular intervals to analyze recent accidents and discuss known hazards or faulty working conditions. The committee should make recommendations to the commander for eliminating hazards and improving safety practices to reduce accidents.

10-3. Principles

The following principles of accident prevention must be applied to achieve an effective safety program.

a. *Active Interest.* Vigorous and continuous emphasis must be placed on safety. Unless all personnel are actively interested and willing to participate in the program, the best safety program will fail. Interest in safety may be maintained by appealing to personal pride and stressing the responsibilities each man has to himself and to his unit. Suggestions for making operations safer should be encouraged and such suggestions carefully evaluated. Individuals making suggestions should be given full credit if the ideas are adopted, or they should be given an explanation if the suggestions are found to be impractical. Commanders should be interested in the effect of the accident rate on efficiency and productivity. Interest in the safety program can be effectively maintained by providing facts and figures to illustrate how accidents can affect the operations of platoons and sections and, conversely, how increased demands on productivity can increase the frequency of accidents.

b. *Factfinding.* Facts to be obtained about each accident include *who* was involved or injured, *what* was damaged, *when* and *where* the injury or accident occurred, and the severity and nature of the accident or injury. For accident prevention purposes, this information must be supplemented with facts concerning the *how* and *why* of the accident. This information includes, in particular, the specific act committed, the reason for its being committed, and the nature of any specific mechanical failure or physical hazard. If a tool or piece of equipment was a contributing factor, a determination should be made whether the pro-

per tool or piece of equipment was being used, whether it was being used properly, and whether the tool or equipment itself could have been defective.

c. Corrective Action. Creating and maintaining an active interest in safety helps to prevent accidents. Corrective action to be taken in case of accidents should be based on available and pertinent facts. Near accidents should be reported, along with all available information, so that existing hazards and unsafe procedures or conditions can be eliminated. Similarly, any procedure or condition which might constitute a threat to safety should be reported so that remedial action can be taken. In this regard, some individuals seem to be "accident prone;" if experience indicates that the same individual is repeatedly an accident victim, the individual should be assigned where he is least likely to endanger himself and others.

10-4. Safety Plan

Certain elements, as listed below, should be included in any safety plan. This list is neither all-inclusive nor restrictive:

a. Vehicle Operation. Personnel who qualify for driver training should be trained to operate motor vehicles safely at all times. Unit supervisory personnel should observe drivers during daily operations and take necessary corrective action for any driver deficiencies or unsafe acts or habits noted. Guidelines for the motor vehicle safety program include the following:

(1) Assure that all motor transport operating and supervisory personnel are thoroughly familiar with the provision of AR 385-55.

(2) Assure that all drivers know and understand the contents of TM 21-305, and have a copy in their possession.

(3) Standardize motor vehicle and equipment operator training through the establishment of centralized facilities, where possible, and the use of the best qualified instructor personnel available.

(4) Administer a comprehensive driver road test evaluation by a select group of highly qualified and experienced evaluators.

(5) Platoon sergeants and truckmasters periodically (60-90 days) conduct comprehensive check rides of unit drivers.

(6) Conduct daily predispatch operations and safety briefings to assure that each driver re-

ceives and understands instructions on routes; weather and road conditions; emergency procedures in the event of accident, breakdown, or hostile action; duties en route and at halt; driving hour limitations; overnight halts; and any other pertinent information.

(7) Conduct standardized daily predispatch motor stables to insure that vehicles on dispatch are in safe, fully operational condition and that proper vehicle equipment is on hand.

(8) Conduct daily review of each driver's previous day's operations by reviewing operational records, dispatch records, motor vehicle maintenance records, and, where applicable, tachograph charts.

(9) Conduct frequent driver refresher safety training with emphasis on defensive driving; prevention of accidents; adjusting driving habits to weather, road, and traffic conditions; and proper braking techniques.

(10) Review lessons learned from accidents or near accidents with driver personnel.

(11) Conduct proper and meaningful remedial driver training for weak drivers, traffic violators, and those involved in accidents. Assure that proficiency of the drivers concerned is thoroughly evaluated by a selected, qualified instructor evaluator before such drivers are returned to driving duties.

(12) Suspend or revoke driving permits of drivers habitually involved in accidents or traffic violations.

b. Accident Reporting. A definite procedure for reporting accidents should be established. This should include the preparation and submission, in accordance with AR 385-40, of DA Form 285 (Accident Report), which is normally prepared by the individual's supervisor (platoon leader) and is reviewed at battalion. Promptness and completeness in reporting all accidents or injuries, no matter how slight, should be emphasized in the procedure.

c. Determination of Cause. The commanding officer, or a person delegated by him, should investigate all injuries or accidents to determine their cause and take corrective action to prevent their recurrence.

d. Damage to Equipment. Any accident that results in damage to equipment should be reported immediately. The continued operation of damaged equipment can result in injuries to personnel.

e. Fire Prevention. Wherever fire hazards exist, "NO SMOKING" signs should be posted. Smoking should be permitted only in designated safety areas. Firefighting equipment should be readily available and all personnel should be familiar with its location and operation. Firefighting equipment should be inspected frequently to assure that it is serviceable and operable.

f. Tools and Equipment. Frequent inspections of all tools and equipment should be made for such defects as frayed electrical cords, cracked or splintered handles, and dull cutting edges. Electrical equipment should be properly grounded at all times during its operation.

g. Special Clothing and Equipment. Personnel should be thoroughly familiar with the use, location, care, and inspection of any special clothing or equipment which they may be required to use. Moreover, the use of special clothing or equipment should be rigidly adhered to when the nature of the job requires such use.

h. Special Safety Devices. Commanders should consider the use of various motor vehicle safety devices which may either be procured commercially, are available through military supply channels, or can be made within unit shops. These devices include such items as—

(1) *Antijackknifing devices.* These are fifth wheel dampers or other control devices which exert a snubbing effect on the swinging (fishtailing) motion of a semitrailer. (In this same line, *antiskid brakes* which control jackknifing by regulating brake application to prevent wheel locking regardless of how hard a driver applies the brakes, are undergoing test and development.) It is anticipated that such a device will be adopted for military use in the future.

(2) *Tire siping devices.* These are machines which make controlled diagonal cuts into tire

treads. These cuts provide additional traction, aid in dissipating the heat built up in tires during operation, and afford a smoother ride. (An approved siping device is available through military supply sources.)

(3) *Inflation cages.* These are cages or frames used in unit shops to protect personnel in the event that a tire rim snaps free during inflation after tire servicing or repair. (These items may be made up locally using available scrap material.)

10-5. Special Precautions

Special precautions and techniques are required in many operations if they are to be performed safely. In addition, most tools and equipment require special handling if they are to be used safely. Personnel performing these operations or using the tools and equipment must be properly trained to avoid injuries, loss of efficiency, and damage to materials and facilities. Appropriate technical manuals and bulletins provide information on the safe use of tools and equipment. This information should be stressed during training.

a. Gasoline and other petroleum products, through their properties and characteristics, are the greatest potential hazards to safety. TM 10-1101 outlines the characteristics of petroleum handling equipment and methods of operation. All personnel should be familiar with the provisions of this technical manual.

b. During a nuclear, chemical, or biological attack, many items with which personnel may come in contact may be potentially hazardous. Precautions to be taken depend on the hazard involved. Personnel should be thoroughly trained in and familiar with safety precautions relating to the handling of such materiel, and decontamination procedures in accordance with the instructions contained in TM 3-220.



CHAPTER 11

SECURITY AND DEFENSE

(STANAG 2113)

11-1. Responsibility

a. The security and defense of the company are the responsibility of the company commander. He prepares a plan based on guidance and instructions received from battalion headquarters and on the company's specific mission, situation, and location. He must insure that all company personnel are familiar with the plan, that each person knows what his duties and specific responsibilities are as outlined in the plan, and that all personnel know the proper procedures for dispersal, concealment, and camouflage. He must know what defensive measures are to be taken during ground, air, airborne, or chemical-biological-nuclear attack. He should make sure that unit personnel are assigned and familiar with specific duties with respect to unit defense. The commander should survey his operations and make plans to lessen the possibility and effects of an attack, using all means at his disposal. He should plan the action to be taken during and following an attack so that the unit may continue to perform its mission. His plans must be coordinated with the plans of adjacent units. The commander must be aware of and consider the fact that in certain tactical situations the company has an estimated rear area protection (RAP) potential which includes furnishing personnel for rear area security and for area damage control (para 11-5).

b. Battalion headquarters is responsible for keeping the company commander informed of the tactical situation and the enemy's capabilities so that he may determine the degree of dispersion required in the company area of operations. Likewise, the company commander is responsible for informing the battalion and adjacent units immediately about an attack on his unit. When an attack is reported, the company commander should report the type and strength of the attacking force so that assistance, if available and required, may be provided.

11-2. Defense Plan

a. General. Since every situation cannot be foreseen, the plan for defense of the unit's area must be all-inclusive and flexible. Operational commitments will reduce the personnel available for security and defense; therefore, this plan should reflect both the assignment of individual responsibilities, and the support available from other sources (adjacent units, area support group) and provide the strongest defense that can be achieved with the organic personnel and weapons available. It must be simple, clear, and understood by all unit personnel. One basic plan, with alternate courses of action for meeting various types of attacks, will generally be the most advantageous. Although the unit may be attacked by regular enemy ground forces, the commander's main concern is defense against attacks by aircraft, missiles, and guerrillas.

b. Passive Defense. Because a truck company has a limited number of weapons and personnel, the company commander should rely heavily on passive defense measures. These measures include camouflage, concealment, cover, dispersion, light and noise discipline, communications security, and warning systems. Use of these measures will deny the enemy information gained through observing company operations and will reduce casualties and damage.

(1) *Air attack.* The best defense against air attack is to prevent detection by screening company facilities from enemy view and dispersing facilities to minimize damage. Command posts and communications equipment should be protected by covered shelters, and foxholes and slit trenches should be provided for individuals. Emplacements for weapons and revetments and cuts for vehicles and other equipment afford concealment and protection from air attack. The company commander should study the terrain of his area of operations to locate natural geographic features such as caves, steep hills, and cuts. He should ascertain the existence and condition of

manmade structures such as air raid shelters, mines, tunnels, and other underground installations which can be used to protect personnel and materiel. In selecting any underground facilities, the following factors must be considered:

(a) More than one exit should be provided.

(b) Ventilating systems and fresh air intake should be adequate.

(c) A moisture control system should be provided.

(d) Provisions should be made to prevent the sealing off or collapse of the facility.

(e) Sufficient operating and storage space for personnel and supplies should be provided.

(2) *Ground attack.* Defense against ground attack should include the following measures:

(a) A warning system.

(b) Assignment of defense sectors to the various elements of the company.

(c) Familiarization of personnel with defense positions and duties.

(d) Use of slit trenches and foxholes.

(e) Assignment of personnel to specific positions and designation of an assembly point for a mobile reserve.

(f) Strong points to cover avenues of approach.

(g) Camouflage discipline.

(h) Coordination with adjacent units.

(i) A plan for perimeter defense.

(j) Frequent rehearsals and inspections of the defense system.

(k) Plans for destruction of materiel.

(l) Frequent test firing of crew-served weapons.

(m) Organization of firefighting crews.

(n) A medical evacuation plan.

(o) Communications security plans and procedures.

c. Active Defense. The defense plan for the company area must indicate fields of fire, observation points, avenues of approach, and obstacles that will impede the enemy. Close coordination with commanders of adjacent units is necessary to insure mutual support and assistance and facilitate the assignment of sentinel posts, formation of patrols, and determination of areas of individual unit responsibility and areas of joint responsibility. Guidance for the use of non-air-defense weapons against hostile aircraft is provided in appendix H.

d. Perimeter Defense. To help protect the company against surprise attack, a well organized and effective perimeter defense is needed. Each

individual assigned to perimeter defense should be instructed in his mission, zone of fire, and area of responsibility. The following are factors necessary in effecting perimeter defense:

(1) *Warning system.* The key to the defense of the company area is an adequate warning system. It includes such items as telephones, radios, whistles, Klaxons, observation posts, trip flares, sentinel posts, and patrols to control areas which could become locations for enemy observers.

(2) *Obstacles.* Certain natural obstacles near the perimeter defense line could be improved with some manmade obstacles. For example, streams, swamps, ravines, cliffs, and dense woods should be improved with the use of barbed wire, minefields, booby traps, and roadblocks. These obstacles should be covered by weapons fire.

11-3. Practice Alerts

So that individuals may become proficient in performing their assigned tasks without hesitation or confusion, plans for security and defense of the area or installation should be rehearsed frequently. The duties of key personnel should be made clear, and alternates should be designated in case key personnel become casualties. Damage resulting from enemy air or ground attack will be minimized by an effective defense plan which is rehearsed frequently. (For a further discussion of perimeter defense, see TM 55-310.)

11-4. Nuclear and Chemical-Biological (CB) Defense

A complete defense plan should provide for protection against nuclear and CB attack. The nuclear and CB plans may be prepared as part of the overall unit defense plan, or they may be prepared as annexes. (See annexes I and II to appendix Q.) All personnel should be trained to promptly recognize nuclear and CB attacks. They should also be familiar with first aid techniques and measures to counteract or reduce the effects of injuries. The nuclear and CB plan should include the following:

a. Company standing operating procedures (SOP) for defense against nuclear and CB attack.

b. Warning systems with provisions to designate the type of attack, if practicable.

c. Description of duties of fireguards, security guards, and unit CB personnel.

d. Training of all personnel in individual protective and first aid measures.

e. Inspection of materiel received from using units if contamination is suspected.

f. Methods of segregating contaminated supplies and equipment if decontamination cannot be done by unit personnel. (Contaminated materiel should be properly marked as a warning to other personnel.)

g. Maintaining liaison with chemical units for technical advice and assistance.

h. Use of protective masks, special clothing, and other protective equipment. See FM 21-40 for guidance on the mission oriented protection posture (MOPP) for protection during operations in a toxic chemical environment.

i. Use of protective shelters for personnel and supplies.

j. Immunization and field sanitation procedures.

11-5. Rear Area Protection (RAP)

a. *RAP* is a territorial command responsibility, the purpose of which is to maximize the capabilities of local combat support and combat service support elements to defend themselves and to render mutual support without requiring tactical assistance from combat forces. *RAP* is divided into two separate functions: rear area security (*RAS*) and area damage control (*ADC*).

(1) *RAS* includes those measures taken to minimize the effects of an enemy attack, sabotage, infiltration-guerrilla action, or the initiation of psychological warfare, all or any of which pose a potential or actual threat to friendly units, activities, and installations and their operations. *RAS* measures may be taken prior to, during, and/or after an anticipated or an actual hostile action.

(2) *ADC* includes those measures which may be taken before, during, and/or after hostile action or natural or manmade disasters to reduce the probability of casualties and damage and/or to minimize the effects of such hostile actions or disasters on units, activities, and installations and their operations.

b. *RAS Requirements*. These requirements include measures necessary to forestall, neutralize, or defeat an enemy action and generally consist of providing elements capable of engaging enemy forces. There are no fixed requirements for motor transport units in a rear area security role. As a guideline, however, it is anticipated that the avail-

able motor transport command and supervisory units will be called on to provide *RAS* command and control teams while the motor transport truck companies will provide reaction platoons (table 11-1).

(1) *RAS command and control teams*. These teams operate under control of the rear area operations center (*RAOC*) and provide for the command and control of reaction teams. The composition (strength and grades) of the team varies depending on the local situation. The team should, however, be equipped with vehicles and radios for mobility and communications.

(2) *RAS reaction platoons*. These platoons operate under control of the *RAS* command and control teams and are equipped with weapons and other equipment necessary to combat a hostile force. Transportation units will provide armed personnel and/or transport as directed by the appropriate commander.

c. *ADC Requirements*. These requirements include measures for damage assessment, control of personnel and/or traffic, firefighting, first aid, rescue and cleanup, and similar actions. Guidelines for participation of motor transport units in *ADC* actions indicate that command and supervisory units will provide *ADC* parties, while the motor transport truck companies will provide labor squads (table 11-1).

(1) *ADC parties*. These parties operate under control of the *RAOC* and provide for command and control of *ADC* teams. A typical *ADC* party consists of five officers and five enlisted personnel equipped with vehicles, radios, and other specialized equipment (FM 31-85).

(2) *ADC labor squads*. These squads operate under control of the *ADC* parties and provide for rescue, limited first aid, firefighting, labor, or other duties as required. A typical *ADC* labor squad consists of 10 enlisted personnel (one squad leader, one assistant squad leader, one vehicle operator, and seven detail men) equipped with vehicles, tools, and equipment necessary to accomplish its mission (FM 31-85 and annex III to app Q).

Table 11-1. Rear Area Protection Participation by Motor Transport Units (FM 31-85)

Type motor transport unit	Rear area security potential	Area damage control potential
Transportation motor transport brigade	-----	<i>ADC</i> party
Transportation motor transport group	-----	<i>ADC</i> party

Table 11-1. *Rear Area Protection Participation by Motor Transport Units (FM 31-85)*—Continued

Type motor transport unit	Rear area security potential	Area damage control potential
Transportation motor transport battalion	Control and control team	ADC party
Transportation truck company (light)	Reaction platoon	Labor squad
Transportation medium truck company	Reaction platoon	Labor squad
Transportation light-medium truck company	Reaction platoon	Labor squad
Transportation heavy truck company	Reaction platoon	Labor squad
Transportation car company	-----	Labor squad

(3) *ADC annex to standing operating procedure (SOP)*. For a sample ADC annex to a company SOP, see annex III to appendix Q.

11-6. Demolition of Vehicles and Equipment (STANAG 2113)

a. General. Demolition action may be necessary to prevent vehicles or equipment from falling into enemy hands. Each truck company must have a plan of demolition for vehicles and equipment, and unit personnel should be instructed in the fundamentals of demolition techniques (FM 5-25).

b. When to Demolish. Caution should be exercised by the commander of a truck unit in issuing general instructions or SOP's for demolition action. General instructions may lead to premature and unnecessary destruction of vehicles, equipment, and supplies. The first objective is to avoid capture of equipment by the enemy and permit its continued use against the enemy. Measures involving destruction should be applied only after every evacuation measure has been exhausted.

c. Demolition Methods. Demolition procedures should be simple, effective, rapid, and standardized. Any method of destruction is acceptable which satisfactorily denies the use of vehicles and equipment to the enemy and for which means are available in the unit. Several methods may be established within a unit with the factors of the tactical situation, the time available to accomplish demolitions, and the tools available dictating which method will be used in a given situation. The following methods of demolition and destruction are suggested:

(1) *Vehicles.* The demolition of vehicles must follow a fixed pattern to prevent repair and

use of one vehicle through cannibalization of parts from other vehicles. The destruction of cooling, electrical, and fuel systems is quicker and easier than the destruction of motor blocks, transmissions, and other heavy assemblies. Fire should normally be used to supplement a systematic smashing of vital vehicle parts and accessories. For detailed vehicle demolition procedures see appendix I.

(2) *Rations.* The most effective demolition method for rations is to pour gasoline on the supplies and burn them. Explosives may also be used, although part of the supplies are likely to be scattered rather than destroyed. If circumstances prohibit the use of fire or explosives, perishables can be contaminated with gasoline or saturated with water and sprinkled with chloride of lime. If there is time, cans should be punctured individually. Supplies can be thrown into any available large bodies of water; waterproof containers should be smashed and the individual items scattered.

(3) *Miscellaneous supplies and equipment.* Clothing and equipment can be sprinkled with gasoline and burned. If burning is not practicable, individual items should be removed from containers and then slashed or ripped, buried, or contaminated with chloride of lime. They may also be thrown into rivers or lakes in weighted containers. Heavy equipment may be rendered useless by removing vital parts or smashing them with sledge hammers.

d. Fire. In certain instances, since flame and smoke may reveal the location of the unit to hostile forces, it may be inadvisable to use fire for destruction of supplies and equipment. In such a case, the physical destruction of vehicles and equipment will be as thorough and complete as the available time and tools allow.

e. Other Demolition Requirements. Depending on the situation, demolition requirements may include the destruction of unit records and also of buildings and facilities occupied and used by the unit.

(1) *Records.* Fire provides the surest means for records destruction. Gasoline, kerosene, paint and varnish thinners, or other flammable liquids will facilitate burning of records.

(2) *Buildings and facilities.* The use of fire and/or explosives provide the most expedient means to destroy barracks, shops, POL sites, offices, and other buildings, structures, or fixed facilities.

f. Demolition Teams. Although all unit personnel should be familiar with demolition procedures, unit plans should designate teams to be trained in, and responsible for, the destruction of specific equipment or facilities. The use of trained teams will assure that destruction measures are carried out promptly, completely, and with the least possible confusion.

11-7. Operational Security

a. In addition to the aspects of physical security measures which an organization or unit takes to provide defense measures against an actual hostile action, the conduct and observance of operational security is of prime importance.

b. Operational security involves prevention of an unwitting or inadvertent disclosure of plans to the enemy. Operational security surveys in the field have disclosed that successful enemy exploitation has been made of stereotyped patterns of activity and associated communications. All organizations and units should maintain constant surveillance of their operations to insure that

their activities do not provide intelligence to hostile forces.

c. Appendix J provides examples of specific sources of information or indication of activities patterns which result in operational security leaks.

11-8. Electronic Warfare Defense

Motor transport operations may rely heavily on radio communications for command and control. Commanders must recognize that communications are vulnerable to both hostile electronic countermeasures (ECM) which can reduce or neutralize their effectiveness, and hostile intercept/analysis (electronic warfare support measures (ESM)), which can result in enemy determination of the type, purpose, location, and composition of the radio net and associated units. Defense against hostile ECM or ESM is accomplished through adherence to established communications security practices, and the application of appropriate electronic counter-countermeasures (ECCM). See FM 32-5, FM 32-20, and FM 24-18 for details.



CHAPTER 12

CONVOY OPERATIONS

(STANAG's 2113, 2154)

12-1. General

a. This chapter provides guidance for the planning and execution of convoys by motor transport units. It concerns itself primarily with the internal aspects of convoy operations and offers techniques and procedures intended to aid commanders and units in the accomplishment of movement by motor transport.

b. For a detailed discussion of the organization and control of military motor movements, see FM 55-30 and TM's 55-310, 55-311, and 55-312.

12-2. Convoy Movements

a. By definition (AR 310-25) a convoy is a group of two or more vehicles organized for the purpose of control and orderly movement under a single commander. This definition is sufficiently broad to permit coverage of any situation where the need might arise to exercise movement control measures over the use of roads by military vehicles; for instance, where an outsize vehicle moving with an escort vehicle requires, and is granted, clearance for movement over a given route.

b. Operationally (and in consonance with AR 55-162 governing continental United States (CONUS) operations), and for the purpose of regulating motor transport and the use of roadways, a convoy normally consists of a group of 10 or more vehicles operating together under a single commander. This permits exercising movement control procedures over highway usage, yet provides sufficient operational latitude to reduce the requirements for movement clearance requests for smaller groups of vehicles dispatched to meet routine and/or administrative transport requirements.

c. *Reconnaissance.* To properly plan and conduct any convoy mission, the convoy commander must, prior to movement, know the condition of roads, traffic, terrain, road obstacles, capacity of bridges to support the weight of the traffic, enemy capability, and other factors affecting the

march. Information not obtained through prior operations or furnished by higher headquarters must be secured by a map or road reconnaissance. The value of map reconnaissance is limited by the accuracy and reliability of the maps and aerial photographs available (FM 21-26). Map reconnaissance should, if possible, be verified by road reconnaissance to determine such factors as the type and condition of roads, bottleneck areas such as narrow bridges and low underpasses, hazardous curves, and other factors which may affect traffic flow. If the commander cannot personally make a field reconnaissance, an experienced officer or noncommissioned officer should be designated. Though it is desirable that the reconnaissance element return prior to the departure of the unit, it is often necessary for this party to operate a few miles or hours ahead of the convoy. Reconnaissance may also be made by air. Although detailed data on roads and surfaces, bridges and their capacities, and overhead clearances cannot be obtained through an air reconnaissance, the general characteristics of the road and adjoining terrain—which may be of value in locating possible ambush sites—can be determined. For more information on route reconnaissance, see chapter 21 of this manual, TM 55-310, and FM 5-36.

d. *Organization of Convoys.* The organization of a convoy for a specific mission will reflect such factors as the number of vehicles, loads involved, traffic conditions, and the tactical situation under which the convoy will operate. Serial and march unit designation should correspond to squad, platoon, or company organization to maintain command integrity. March organization and duties and responsibilities of key personnel are covered in FM 55-30 and TM 55-310.

12-3. Methods of Movement

Battalion or higher headquarters normally prescribes the method of movement, either by standing operating procedure (SOP) or directive, for the motor operations of subordinate units. The method of movement selected will depend on the

local situation and consideration of the needs for dispersion, reduction of congestion and delay at depots and terminals, and reduction of traffic conflicts. The method selected must provide control over the operation to implement the movement plan efficiently and to effect necessary changes in routing or scheduling with minimum delay and confusion. Three methods of movement are commonly employed: close column, open column, and infiltration. These methods are explained, with the advantages and disadvantages of each, in FM 55-30 and RM 55-310.

12-4. March Discipline

a. March discipline, which is the adherence of convoy personnel to both proper operational techniques and rules of the road, is attained through training and through internal control within the marching unit. It is indispensable to the effectiveness of the march column. The specific objective of march discipline is to insure intelligent cooperation and effective teamwork on the part of all march personnel; this is attained only through effective training, constant supervision by officer and noncommissioned officer personnel, practical experience, and meticulous attention to the details of techniques listed below:

- (1) Correct driving.
- (2) Immediate and effective response to all signals and orders.
- (3) Prompt relaying of visual signals.
- (4) Strict obedience to traffic regulations; to rules of the road; and to the instructions of highway regulating, traffic control, and command personnel.
- (5) Effective use of cover, concealment, camouflage, dispersion, radio silence, blackout precautions, and other protective measures against air, ground, or chemical-biological-nuclear attack.
- (6) Correct speeds, distances, and positions within the column.
- (7) Observance of the rules of march hygiene.
- (8) Proper care of equipment.
- (9) Observance of proper safety precautions at the halt.

b. The responsibility for good march discipline begins with the driver of each vehicle and increases proportionately with the operating level of each commander charged with internal control.

(1) The driver of each vehicle is responsible for observing the proper vehicle gap and speed, for safety precautions, for good driving, for performance of prescribed organizational maintenance, and for strict observance of all requirements of SOP's or specific orders governing the march. The driver will be given adequate orientation on routing and destination to insure safe arrival in the event of separation from the column. When time and circumstances permit, he is supplied with a strip map of his route.

(2) The assistant driver is constantly on the alert for column signals and warnings and for signs placed along the road. He warns the driver and transmits such information back along the column when appropriate. This is particularly important at night or under conditions of poor visibility. The assistant driver assists the driver in every way possible. This includes guarding against the driver's falling asleep, assisting in at-halt maintenance service, and helping with emergency repairs.

(3) Squad leaders supervise the actions of the drivers of the vehicles assigned to their squads, giving particular attention to proper operation of vehicles and the performance of organizational maintenance.

(4) Section leaders and platoon leaders supervise the actions of squad leaders, giving them the instructions required for the proper functioning of their sections or platoons.

(5) The march unit leader or commander gives the orders to move or halt and exercises general supervision over the conduct of his unit. He is responsible for maintaining the proper position of the march unit within a larger column and for carrying out the orders of the column commander.

(6) Commanders in a convoy, column, or serial are responsible for their units. This responsibility becomes broader and more general at each higher level of command.

12-5. Briefing of Convoy Personnel

a. In any motor transport move it is imperative that all operating personnel be briefed and be made fully aware of all details regarding the operation. It is the responsibility of the convoy commander to assure that this briefing is accomplished. He may do this in one of two ways:

(1) The convoy commander may conduct a briefing for all convoy operating personnel. He

informs them regarding the mission, organization, and details of the operation, including such items as loading and unloading points, routes, schedules, vehicle speeds and gaps, halts, and all other operational information required to insure the success and proper completion of the move.

(2) Depending on the size of the convoy and the number of personnel involved, the commander may brief only his element (serial, march unit) commanders; they in turn brief the operating personnel under their command, passing on to them all information presented by the convoy commander.

b. In addition to briefing on operational matters, the commander should insure that drivers are briefed on proper operational techniques (app K).

c. To assure himself that his briefing includes all details pertinent to the operation, the convoy commander may use the convoy commander's checklist (para 12-6 and app L) as a briefing guide.

12-6. Convoy Commander's Checklist

a. As an aid to the convoy commander in accomplishing all the necessary details and duties connected with a move by motor transport, a type checklist is offered in appendix L. This checklist provides guidance to the convoy commander in the performance of those actions necessary to insure that a convoy move is properly planned and organized and that all operational details have been covered. The format of this checklist is intended as a guide only; it may be changed or resequenced as desired to meet the operational requirements imposed by any given situation.

Note. Start and release points may be identified by using grid coordinates. This not only provides for positive identification, but also can be a security measure.

b. This checklist also offers a guide to the convoy commander in preparing and presenting his briefing to the convoy operational personnel prior to the start of the convoy move. By covering in his briefing the data contained or referred to in the checklist, the commander can assure himself that all pertinent details of the convoy are brought to the attention of the operating personnel.

12-7. Halts

During convoy operations, halts are made for rest, personal comfort and relief, messing, refuel-

ing, maintenance and inspection of equipment, allowing other traffic to pass or to clear an intersection, and adjustment of operational schedules. The time and duration of halts are usually prescribed in SOP's and operating directives of higher headquarters.

a. Time, Duration, and Frequency of Halts (STANAG 2154).

(1) Normally, short rest halts last 10 minutes and are made 10 minutes before the hour, after each 2 hours of running time. During extreme weather—especially in extreme cold—on moves of more than 4 hours' duration, halts should be scheduled after each hour of operation.

(2) Mess and refueling halts are generally of from 1/2 to 1 hour duration. When there is a requirement to permit another convoy to pass, a mess and refueling halt should be scheduled to coincide with the passing halt, thus using a necessary delay to an advantage.

(3) To maintain established gaps between serials, it is desirable that all elements of a convoy halt at the same time. In implementation of this principle, STANAG 2154 states that following orders given by the authority responsible for regulating traffic in the area, all columns following the same itinerary will halt at the same time.

b. Location of Halts.

(1) The locations for scheduled halts should be selected in advance, specifically ordered, and, in the case of long halts, plotted on road movement graphs. These selections may be prescribed by higher authority, made tentatively by map reconnaissance, or made by the reconnaissance party. On dispatch routes, highway regulation points may include refueling stations, messing facilities, temporary quarters, and maintenance facilities. When such facilities have been provided, highway regulation orders or other orders from higher headquarters usually prescribe the places at which halts will be made.

(2) If the halt is brief and will not interfere with normal traffic flow, the column may stop on the shoulder of the road. It is desirable that halting places provide turnaround facilities or circuitous exits so that the column can be reversed quickly or can reenter the convoy route conveniently.

(3) If crossroads, railroad crossings, or similar danger points lie within the halt area of a column, subordinate commanders will require vehicles to stop a reasonably safe distance from

them. No part of a column should stop on bridges, and halts on steep grades and sharp curves should be avoided.

(4) Comfort of personnel and servicing facilities for vehicles are important considerations in selecting sites for long halts. If a column starts from a populous area, its first halt should be delayed, when practicable, until a rural area is reached. For the same reason, halts should not ordinarily be made in villages or towns unless there is a special need.

c. Precautions at Halts.

(1) Columns should be halted at points providing a clear view of at least 200 yards (182 meters) to the front and to the rear. If conditions prevent this, approaching traffic must be forewarned.

(2) Guards, warning flags, caution lights, or flares (security conditions permitting) should be posted at the front and rear of the column and at any other points where there is a hazard to passing traffic. If the column blocks part of the road at the halt so that it is necessary to operate one-way traffic, authorized traffic movements may be alternated either by using flags transmitted from one end of the single lane to the other by the last vehicle of each passing group or by posting guards to control traffic by signal.

(3) When the halted column forces traffic moving in the same direction to cross the centerline, vehicles should be parked with enough distance between them to allow passing vehicles to enter the column upon the approach of vehicles from the opposite direction.

(4) Unless otherwise prescribed, when traffic approaching from the rear of a halted column preparing to resume its march cannot clear the column before its resumption of movement, convoy or element commanders may require such traffic to remain behind until the column is on the road and underway.

(5) All personnel other than traffic guides must remain off the road to the right of their assigned vehicles (left in those countries where traffic drives to the left), keeping the traveled portion of the road clear at all times.

d. Duties at Halts.

(1) Officers and noncommissioned officers check the security of loads, the performance of organizational maintenance, and the welfare of personnel.

(2) Control personnel make necessary inspections and give instructions to insure prompt resumption of the movement with a minimum of confusion at the end of the halt.

(3) Mess, medical, and refueling and maintenance personnel perform such special duties as the purpose and duration of the halt permit.

12-8. Messing En Route

Mess facilities for personnel engaged in convoy operations may be provided by either the organizational mess of the unit(s) engaged in the operation, by transient facilities established at highway regulation points or other points along heavily traveled routes, or by other units located in the area in which the convoy is operating.

a. Organizational Messes. The success of organizational messing en route depends on the training, skill, and ingenuity of mess personnel. This type of messing has the advantage of providing meals at regular intervals independent of routing and/or supporting facilities. Meals may be furnished by organizational messes in several ways, including the following:

(1) The mess truck accompanies the convoy and meals are prepared during movement. At the meal halt, meals are served.

(2) The mess truck is dispatched ahead of the convoy to a previously selected mess area. Here facilities are established, food is prepared, and upon arrival of the convoy, meals are served.

(3) Meals are prepared in advance by the unit mess and are packaged in marmite (heat-retaining) cans. These are carried with the convoy and food is dispensed to the troops at meal halts. If a garrison ration is not used, canned rations may be preheated in the unit area and sent with the convoy. This method is practicable only if the operation requires that convoy personnel be absent from their home mess for one meal; for instance, convoy personnel eat breakfast at the unit prior to departure on convoy, eat the pre-prepared meal at lunchtime, and return to the unit for normal evening mess.

(4) Bag lunches consisting of sandwiches, cake or cookies, and a fruit if available, are provided from the unit mess to feed personnel who will be away from the unit during a normal mealtime. Bag lunches provide the least desirable method of feeding personnel away from their home station. If used, they should be prepared in as appetizing a manner as possible; a canned or prepared drink should be provided if available.

b. Transient Messes. These are facilities established along main arteries of movement to provide food and meals to convoy personnel and others operating over these routes. Units intending to use such facilities may be required to notify these messes, through movement control or other coordination channels, of their intention so that sufficient food may be available.

12-9. Maintenance En Route

En route maintenance services are performed by the driver of a vehicle and, in instances where repairs are beyond his capability, by maintenance personnel accompanying the trail element of the convoy.

a. The driver performs normal maintenance services during operations and at halts. At halts he investigates and corrects deficiencies noted during operation or reports such deficiencies to the maintenance personnel. He makes such roadside repairs as are within the limits of his training and capabilities; these include such services as changing tires, tightening loose parts or connections, and making minor adjustments or repairs to fuel, electrical, and cooling systems.

(1) The driver will not attempt any repairs unless he is reasonably certain of his diagnosis of the trouble and of his ability to correct such deficiency.

(2) After making an emergency repair, the driver will report the fact to his squad or platoon leader at the first opportunity so that maintenance personnel may inspect the repair and perform any further required service.

b. The maintenance personnel in the trail element of the convoy diagnose and make organizational maintenance level repairs on vehicles of the convoy, or take such other corrective action as is necessary or directed.

(1) If repairs to be made are minor, on-the-spot correction is made or a mechanic with the necessary tools and parts is dropped off to make the repairs and then rejoin the convoy with the vehicle.

(2) If doubt exists as to a repair being made within a reasonable time, the cargo or the tow may be transferred to another vehicle to proceed with the convoy; the disabled vehicle is then repaired and rejoins the convoy.

(3) In cases where repair or adjustment is beyond the capability of the convoy maintenance personnel, the trail officer makes the decision on

action to be taken and contacts the appropriate service support element as required.

c. Vehicles undergoing repairs and/or abandoned will be moved off the road so that they will not interfere with traffic.

d. Vehicles dropping out of a convoy due to mechanical difficulties will, when repair has been completed, resume the march at the maximum permissible speed and rejoin the rear of the convoy. Then at the next scheduled halt, if road and traffic conditions permit, the driver will resume his normal place in the convoy.

12-10. Refueling En Route

a. The requirements imposed on a convoy to refuel vehicles en route and the method employed depend on many variable operational factors. Normally, refueling operations are established based on the average operating range of the task vehicles in a convoy; that is, the distance that type of vehicle will travel on a full tank of fuel. However, a convoy operating over good roads and fairly level terrain with relatively lightly loaded vehicles may be able to travel between two given points with no requirement for refueling, whereas the same vehicles operating over poor roads in mountainous terrain and with full capacity loads may require refueling in order to travel the same distance. Further, other factors such as a mix of task vehicles, the age and condition of vehicles, and even driver habits, will impact on en route refueling requirements.

b. The scheduling of refueling operations is important. Refueling should be done before there is any possibility of fuel exhaustion by any vehicle in the convoy; however, refueling too soon should also be avoided since this may necessitate an additional refueling operation prior to completing the move.

c. Advantage should be taken of any opportunity to refill fuel tanks without delaying the move. Meal halts or other extended scheduled halts should be used for refueling operations when practicable.

d. Every precaution should be taken against accident or fire during refueling operations. Vehicle engines should be cut off, smoking will be prohibited on or near vehicles being refueled, and care must be taken to avoid spilling fuel (gasoline spilled on clothing or footwear and allowed to come in contact with skin for a prolonged period can result in serious skin irritation or burns;

gasoline fumes inhaled in concentrated amounts can have a toxic effect on individuals).

e. The method employed in refueling operations depends on facilities and equipment available, the extent of refueling to be done, and other operational factors. Appendix M describes various refueling methods.

12-11. Medical Support En Route

Medical support should be provided for every motor movement. The type and amount of medical support required by the movement depends on the situation and on the type and size of the march or convoy. This support may be organic to the unit or units in the movement, attached by higher headquarters, or provided by the area command in the form of medical aid stations located along the route. Evacuation will normally be to the nearest medical treatment facility. Movement orders should specify locations of medical treatment facilities along the route of movement. Medical support organic to a unit should accompany it; normally, ambulances and medical personnel travel at the rear of the march unit or element. In large columns, medical support is dispersed throughout the column to minimize delay in cases of emergency. In small columns, medical support may be limited to medical aid men or simply motor vehicle first aid kits. While TOE units traveling in tactical groupings will usually have adequate organizational medical personnel and equipment, it is the responsibility of column commanders of other movements to ensure the availability of necessary medical personnel and equipment to protect their commands.

12-12. Additional Convoy Support Measures

a. In addition to the means available within a unit to provide mess, maintenance, refueling, and other facilities for convoy operations, the convoy commander has additional support measures available to him to augment or supplement his organic capability. These measures include—

(1) Service support provided by direct support and general support units stationed in the areas through which the convoy operates.

(2) Mutual support provided by other motor transport units located along or near the route over which a convoy operates.

b. Some of the additional support which may be provided through these sources include—

(1) Wrecker and repair service for evacuation and repair of disabled or wrecked vehicles.

(2) Mess facilities.

(3) Refueling facilities.

(4) Billet and bivouac facilities.

(5) Medical support.

(6) Post exchange support.

c. The method for providing these additional support measures depends on the procedures established in the area of operation. Normally, these support measures are coordinated by the battalion (or appropriate headquarters) and the units concerned are informed of these actions; units may be authorized direct communication with each other to work out the details of an operation.

12-13. Accident Procedures (STANAG 2113)

The following procedures are generally applicable to all motor vehicle accidents, whether during convoy operations or not. Where conflicts occur between the provisions of this paragraph and local directives and operating procedures, such local regulations will apply.

a. When an accident occurs, the main body of a convoy does not stop to assist. Immediate assistance required for injured personnel is rendered by personnel of the next following vehicle. Other following vehicles pull around the accident and continue the move. If the accident blocks the route, every effort is made to clear the route and continue the march. The first officer or noncommissioned officer to arrive at the scene takes charge, supervising emergency medical aid and directing traffic until the trail officer, medical aid, or other competent assistance arrives. The trail officer, aided by medical and maintenance personnel, normally supervises and directs care of the injured, evacuation or disposition of vehicles, and clearance of the route.

b. Normally all accidents resulting in injury to an individual or animal or in damage to property are reported without delay to the convoy commander or designated staff officer and to the military police of the nearest military installation.

c. Most civil governments require that civil police be summoned in cases of motor vehicle accidents. The Army cooperates with civil authorities in the United States and friendly countries in such matters.

d. Accident investigation agencies are summoned according to current instructions. Policies

on investigation of accidents may be modified by the tactical situation, the area SOP's, or applicable agreements between military and civil authorities. For further information, see FM 19-25. (For detailed instructions on accident reports, see TM 55-310.)

e. If disabled vehicles are abandoned, destruct procedures (STANAG 2113 and app I) as established in local SOP's or directives may be implemented to deny use of the abandoned equipment by hostile forces.

12-14. Completing the Move

a. The successful completion of a convoy mission is achieved only after arrival of the convoy at its destination with its cargo of personnel or supplies. The arrival of the head of the convoy at the release point marks the beginning of the final phase of the movement.

(1) *Unit move.* On reaching the release point, the convoy is either met by unit guides from the advance party, or follows route signs posted by this party, and moves promptly to its assigned area. Here elements of the company are directed to their respective areas, facilities are established, and the unit becomes operational.

(2) *Transport mission.* On reaching the release point, the convoy proceeds directly to its designated final destination where the cargo is unloaded. After the cargo is unloaded, the convoy prepares to return to its home station or takes such other action as directed in its movement instructions and orders.

b. In a tactical situation, the rapid distribution of vehicles and loads and the elimination of noise and confusion through adequate organization and discipline can spell the difference between success and failure of a convoy operation.

12-15. Convoy Commander's Report

When a move is completed, the convoy commander prepares and submits to battalion or the appropriate headquarters a report which provides detailed information on the convoy operation.

a. The data contained in this report is used not only to prepare statistics and operational reports, but also to establish experience data for future planning purposes. Further, road and weather conditions and other general data noted in the "remarks" section of this report provide current information on roads, road surfaces and condi-

tions, and other operational information which is highly desirable to update transportation intelligence data and situation maps.

b. Although this report is prepared after the completion of a move, the data contained therein require that information be compiled and entries made prior to and during the operation as well as after its completion. The convoy commander should rely on the personnel in key positions in his convoy to aid in preparing this report. He must, therefore, assure that these personnel are familiar with the report and are aware of the information desired in the report so that they may provide data as directed by the convoy commander and also note and offer pertinent incidents for inclusion in the report.

c. Appendix N offers for use a type format for the convoy commander's report. This format may be modified as desired or necessary to meet the needs of any operational situation.

12-16. Convoy Security—Ambush Countermeasures

During operations in an active theater, convoys are subject to varied hostile actions. Due to the change in the complexion of military operations, the now most common action to be experienced and the type which requires the greatest degree of planning and preparation of protective measures is the ambush. Intensive training in ambush countermeasures must be accomplished on a continuing basis to assure that truck unit personnel react properly and instantaneously to ambush tactics by hostile forces, thus minimizing the possibilities of casualties and/or loss or damage to equipment. TM 55-311 provides a detailed discussion on motor convoy security measures; appendix O to this manual, which contains information based on knowledge and experience gained in the field, offers further guidance on ambushes and ambush countermeasures.

12-17. Convoy Security—Operational

In convoy operations, consideration must be given to the degree of security measures required and the methods by which such security will be provided. Depending upon the actual or anticipated hostile threat, security measures may be provided from sources outside of the transportation unit, or by the unit itself. When outside support is provided, close coordination between the supporting unit or agency and the transportation unit responsible for the convoy operation is required to determine the type and degree of security required.

a. Military Police Support. Military police (MP) convoy security support may be provided on either a full-time basis, or on a mission ("as required") basis. The MP commander is responsible for coordinating convoy security operations within his area of responsibility. For a further discussion of MP support in convoy operations, see FM 19-50.

b. Area Support. The commander of an area in or through which convoys operate may be assigned the responsibility for providing convoy security measures within his area. These measures may be in the form of escorts, artillery support, and air cover, in any combination. Local direc-

tives will govern the methods and procedures by which such support is provided.

c. Unit Internal Support. The transportation unit operating a convoy may be required to provide its own convoy security support (hardened vehicles, shotgun riders, fire teams). Due to the limitations on personnel and vehicles available within a unit, any excessive requirements to provide security measures will have a detrimental effect on the operational capability of the unit concerned (reduction in task vehicles and drivers available for mission support operations due to the shift of vehicles and personnel to security assignments) and must be considered at all command levels.

CHAPTER 13

UNIT DISPATCH PROCEDURES

13-1. General

Technically, the operation of the motor pool of a transportation truck company involves two areas of responsibility: one of vehicle dispatch and control and one of vehicle maintenance and repair. This chapter concerns only dispatch and control and those related functions which are so closely associated as to be normally considered a part of unit dispatch procedures.

13-2. Dispatch Personnel

Vehicle dispatch and control procedures are directed and supervised by the unit truckmaster, who is assisted by the assistant truckmaster and the dispatcher (one additional dispatcher for 24-hour operation will be authorized as augmentation to company headquarters when current truck company table of organization and equipment (TOE) are changed or revised). In performing their dispatch duties, these personnel must coordinate dispatch actions with the unit platoon sergeants and the motor maintenance sergeant.

a. The platoon sergeants report on the status of personnel in their platoons (present and not present for duty and reasons) to insure that sufficient operating personnel are available to drive unit task vehicles.

b. The maintenance sergeant reports on the status of the task vehicles of the unit (scheduled for services, deadlined, and reason), so that vehicles available for dispatch may be determined.

c. Coordination in both these areas must be made at least twice a day: just prior to submission to battalion by the dispatcher of unit vehicle availability for operations on the following day to insure as accurate a prediction as is possible; and prior to the start of daily dispatch operations to insure that all vehicles committed are ready to go. Coordination may be accomplished at any other times as is deemed advisable by the dispatch personnel.

13-3. Daily Vehicle Availability Report

a. Each day at a time prescribed by higher

headquarters, unit dispatch personnel submit to battalion a vehicle availability report. This report provides battalion with an accurate picture of the status of task vehicles in a unit and with the predicted availability of these vehicles for dispatch on the following day. The information for this report is assembled by unit dispatch personnel and is normally phoned to the battalion operations section. Local directives may require that this report be submitted in writing or that written verification be provided for phoned-in reports.

b. There is no standard format for the vehicle availability report; however, the information submitted normally matches that maintained on the battalion vehicle status board (fig 7-3). Availability reports will be submitted in conformity with local directives and standing operating procedures (SOP's).

c. On receipt of the unit availability report, battalion posts the information to its status board (fig 7-3). When requests for vehicle transportation are received, battalion takes action to commit vehicles in accordance with the battalion capability.

13-4. Daily Task Vehicle Commitments

a. Each day, after screening all requests for truck transportation and determining the distribution of tasks, the battalion operations section notifies each subordinate unit dispatch section by phone of the task vehicle commitments for that unit for the following day.

b. Unit dispatch personnel will insure that all the necessary information for each tasked commitment is received and completely understood. As with the daily vehicle availability report, there is no standard commitment form available; however, the information provided by battalion for a normal commitment generally coincides with the information entered on the battalion master commitment board (fig 7-1). For a commitment or operation involving great detail, an

operation order type commitment may be employed. Vehicle commitment forms may be produced locally using the format of the battalion commitment board as a guide. Local SOP's, directives, and the operating situation will dictate any changes or additional data required. (See appendix P for information on vehicle commitment requests.)

13-5. Task Vehicle Dispatch

a. Unit dispatch personnel, after receiving the daily task vehicle commitments from battalion, match these commitments against the unit task vehicle availability and plan and allocate the unit task vehicle dispatches. As with battalion, the unit dispatcher makes every effort to maintain unit integrity in dispatching by allocating tasks in platoon and/or squad increments whenever feasible.

b. When vehicles are dispatched individually, or when they may be expected to operate "on their own" rather than in convoy, the dispatcher must insure that the vehicle operators are thoroughly familiar with all the details of the commitment on which they are dispatched. If desired, or if the details of the commitment require, the operators may be given detailed written instructions.

(1) Where applicable, the vehicle commitment request format (app P) may be used for this purpose. Only that information necessary to permit the operators to complete the mission need be provided (for instance, items b(2), and c(3) and (4) may be omitted since it would not normally be necessary to provide the operators with this information).

(2) Particular attention must be given to line haul missions that involve movement through one or more trailer transfer points and multistops or overnight stops away from the parent unit. Prior to this type of commitment the platoon sergeant must insure that his drivers are aware of the location of transient billets, maintenance facilities, and emergency points of contact. Provisions for return loads should be made when possible. For individual missions of this nature the operator should be given detailed written instructions. A suggested format for an individual commitment order for a line haul mission is shown at annex I to appendix P.

c. In making daily dispatches, the dispatch personnel prepare, use, and maintain certain forms as follows (for a detailed discussion on these forms, see TM 38-750):

(1) *DA Form 2400, (Equipment Utilization Record)*. This form, commonly known as a "trip ticket," is an authorization for dispatch of a vehicle.

(2) *DA Form 2408-1, (Equipment Daily or Monthly Log)*. This form, which is a part of the vehicle logbook, is an authorization for dispatch of a vehicle when the vehicle logbook is used as a vehicle control document.

(a) No vehicle can be legally used for any purpose unless such use is authorized by issuance of either of the forms indicated in (1) and (2) above by dispatch personnel. These forms then become the trip records for the use of vehicles on proper dispatch.

(b) Dispatch personnel prepare the trip records in advance, usually the evening before vehicles go out, for each vehicle scheduled for dispatch by filling in specific data concerning the vehicle and operator, and when, where, and to whom the operator will report. It is common practice for platoon sergeants to check with dispatch personnel on the evening before dispatch to coordinate dispatches, give any changes in the status of drivers in their platoons, and get all the information on the platoon dispatch schedule for the following day so that they can alert their drivers and prepare for operations.

(c) The trip records are issued to drivers at the time they report to the motor pool for the start of operations. At that time the driver performs a before-operations check of his vehicle to insure that it is properly serviced and ready to roll. Then, under supervision of platoon and company noncommissioned officers (NCO's), the vehicles move out on dispatch. During the day's operation, if the DA Form 2400 is used, the drivers complete the trip portion of that form showing the destination(s) between which they operate and the arrival and departure times for each, adding entries in the remarks column for any fuel or oil added while en route.

(d) At the end of the day's operations, drivers are properly released from dispatch and then return to the motor pool. Here they perform an after-operations check of the vehicle; service and refuel the vehicle; complete the appropriate trip record to show total hours on dispatch, total miles traveled, and fuel and oil added; and turn in the record to the dispatch office.

(3) *DA Form 2401, (Organizational Control Record for Equipment)*. This form provides a consolidated record of the daily operations of a truck company. The initial entries on the DA Form 2401 are made by dispatch personnel after

daily commitments are established and trip records are prepared. These entries are obtained from commitments received from battalion and the trip records prepared to meet these requirements. Closing entries (time in and remarks) are made after vehicles are returned to the motor pool on completion of daily operations, and trip records are turned in by the drivers.

(4) *DA Form 2404, (Equipment Inspection and Maintenance Worksheet)*. This form is issued for use by the vehicle operator to record deficiencies and shortcomings which he notes while performing before-, during-, and after-operation inspections and services. These are deficiencies and shortcomings which cannot be corrected by the operator or which are corrected by replacement of parts. Normally, the form is completed by the driver and submitted to dispatch personnel *only* if the above requirements are met. However, if no deficiencies are found or if those noted are corrected by the driver, there may be no requirement to complete and turn in this form unless the commander desires that the driver complete and sign the form daily to indicate the completion of daily equipment inspection.

13-6. Vehicle Dispatch Board (Fig 7-5)

Each transportation operating unit should prepare and maintain a vehicle dispatch board which provides information such as vehicle bumper number; assigned driver; whether the vehicle is in the motor pool, on dispatch, or deadlined; its destination if on dispatch; and remarks such as expected time of return from dispatch, reason for deadline, or other pertinent data. This board facilitates recordkeeping and affords a quick method of locating and/or determining the availability of vehicles and drivers. The dispatch board usually contains removable labels for each vehicle and driver; destination and remarks sections may be completed by regular pencil or chalk (for easy change) or by china marking pencils if a suitable writing surface is provided. In, out, and deadline designations are easily prepared by drilling holes in the board and using pegs to indicate the status of vehicles. Various colored pegs may be used to indicate deadline status (unit shop, for parts, or in higher echelon shops). As much information as desired may be shown on the board; however, it should not be so complicated as to become confusing.

13-7. Refueling of Vehicles, Daily Operations

Truck company vehicles should be refueled and

served immediately on return to the unit from dispatch. Both the tanks of the vehicles and spare fuel containers if used should be refilled.

a. Methods of Refueling. Unit vehicles may be refueled at either the unit operated petroleum, oil, and lubricants (POL) point or at facilities outside of the unit provided by the POL service.

(1) *Unit POL point.* This point is established and operated by the company. It is located in an easily accessible area adjacent to either the vehicle parking area or the unit shops. It may consist of a stockpile of 5-gallon containers or it may be the unit POL truck. Normally, operators returning from dispatch will stop at the POL point, refuel their vehicles, then proceed to their designated parking area where, after parking, they will complete their after-operation inspection and services, fill in the trip record, and turn it in at the dispatch point.

(2) *POL service refueling point.* Truck units may use established POL points provided by the POL service for refueling of vehicles.

(a) These points are centrally located with regard to the area/units serviced, and refueling may be done through the use of 5-gallon containers, fuel dispensing vehicles, pipeline taps, temporary storage tanks or existing permanent facilities, or any combination thereof.

(b) Truck unit vehicles returning from dispatch will refuel at these facilities, then return to the unit area to terminate the daily operations.

b. Safety Precautions During Refueling. The observance of a few simple rules during refueling of vehicles will aid in the elimination of accidents, fire, and personal injury.

(1) The spouts or nozzles of containers and hoses should be in contact with the lip of the vehicle fuel tank during refueling to avoid danger of sparks generated by static electricity.

(2) Vehicle engines should be turned off during refueling.

(3) There should be no smoking or open flame in or near (normally within 50 feet) vehicles during refueling.

(4) In the event of fire, use the proper foam-type extinguisher or sand, dirt, or ashes on a gasoline fire.

c. Unit POL Storage/Dispensing Point Precautions. In setting up unit POL storage or dispensing points, certain precautions should be taken to minimize the possibility of accidents or fire.

(1) POL should be stored out-of-doors, at least 150 feet from any other unit facility.

(2) Adequate ditches or retaining walls (earth) should be prepared to receive or restrain fuel in the event of spillage or accident.

(3) When feasible, the ground around the storage area should be cleared of vegetation for approximately 30 feet on all sides.

(4) No smoking or open flames should be permitted within 50 feet of the area.

(5) POL 5-gallon containers should be stored "standing up" on dunnage. They should not be stacked over five cans high not in blocks of more than 50 feet square.

(6) Drums of lubricating oil will be stored on their sides on dunnage.

(7) POL storage piles will be shored to prevent piles from falling.

(8) Protection against direct rays of the sun should be provided by tarpaulins or other covering. Such covering should permit free circulation of air (fly construction, lean-to's, etc.).

Note. To minimize formation of gums and/or moisture deposits in 5-gallon cans of gasoline, the principle of "first in—first out" should be followed in using or dispensing the storage stocks.

13-8. Utilization of Vehicles

a. The measure of efficiency of a unit and of the motor transport service depends on the proper use of assigned task vehicles. It is the commander's responsibility at all levels to guarantee that motor transportation is administered and maintained so as to provide maximum support to using units and agencies.

b. The truck unit commander discharges his responsibility for proper use of vehicles through several media.

(1) *Vehicle driver.* All drivers must be thoroughly trained in the proper and safe operation of their vehicles and in the performance of operator maintenance services. They must operate the vehicle in accordance with directives and SOP's, perform scheduled inspections properly and conscientiously, and report deficiencies promptly. Their actions weigh heavily on whether or not a vehicle is available for dispatch.

(2) *Maintenance personnel.* Unit maintenance personnel are responsible for keeping vehicles in a safe and efficient operating condition. With thorough training and adequate supervi-

sion, maintenance personnel can enhance the vehicle utilization factor by promptly and properly completing scheduled maintenance services and/or repair services.

(3) *Dispatch personnel.* These personnel can exercise a direct influence on vehicle utilization since they accept all task vehicle commitments for the unit, prepare all vehicle dispatches, and receive the trip records (equipment utilization records) after the completion of operations. They are in a position where, through screening and coordination of daily tasks, they may consolidate requirements, and, through careful study of trip records, they may uncover evidence of unsatisfactory vehicle utilization by using agencies, improper use of vehicles by drivers, or even, through repeated maintenance requirements, improper operation of vehicles by drivers. These situations, if allowed to go on uncorrected, have a definite negative affect on vehicle utilization.

(4) *Platoon officers and NCO's.* These personnel, in their capacity of training unit personnel and in the supervision of operations and maintenance, are in the position to observe, note, correct, and/or eliminate any practices or procedures which have a detrimental effect upon vehicle utilization. In their supervision of daily operations, whether it be with the vehicles on dispatch, on a road patrol, or during liaison and inspection visits to using agencies, they can note improper and/or inefficient loading and unloading procedures, undue delay times, improper vehicle or convoy operations or practices, unauthorized use of vehicles, and any other similar actions which affect vehicle utilization. These officers and NCO's are also, through personal supervision and contact with unit personnel, able to recognize factors such as the needs for special or additional training in the unit, changes in attitude of personnel, or improper performance of duties, all of which can seriously affect vehicle utilization.

13-9. Container Utilization (FM 55-10)

a. General.

(1) The increased use of containers of both military (MILVAN) and commercial types in the movement of military cargo necessitates close supervision by operating and using personnel to assure that such containers, and the chassis on which they are transported, are properly employed—cargo is promptly loaded and/or unloaded, and turnaround of containers and chassis is expedited—to obtain maximum utilization of this equipment.

(2) Local ground rules and contractual service agreements will govern time limitations imposed on loading and unloading activities for loading cargo into or unloading cargo from containers before demurrage cost starts. Using agencies will make every effort to abide by these limitations and control cargo load and unload procedures to meet such restrictions; motor transport operating personnel will, in the course of observing and checking motor transport operational areas, also note that container cargo load and unload procedures are conducted in accordance with established procedures. Violations noted will be brought to the attention of both the using agency and the proper motor transport command and supervisory unit.

(3) Cargo load and unload time will, at the discretion of the theater commander, apply to all military type containers and chassis to assure expeditious turnaround and efficient utilization of equipment.

(4) Where facilities and equipment permit, containers may be offloaded from chassis onto the ground for cargo load/unload to permit continuous use of container chassis in other operations.

(5) Some containers may be transported on cargo semitrailers rather than on container chas-

sis; operating policies discussed herein are applicable to containers transported on semitrailers as well as those transported on container chassis.

(6) In the event that specific containers are designated by proper authority for storage purposes or for other facilities use by the consignee, they will upon receipt at destination be immediately removed from the transporting chassis/semitrailer and that chassis/semitrailer will be returned to transportation use.

b. Inspection of Containers. Drivers and supervisory personnel engaged in the transport of commercial sea containers must be thoroughly trained in methods of inspection of these containers for damage upon acceptance for movement. Such inspection should be conducted prior to movement and be thorough in nature. The actual condition of the container should be documented on a format developed specifically for this purpose (reproduced locally). Results of the inspection should be forwarded to the echelon of command where damage and demurrage charges are paid to the owning firm. These inspection reports can be used to rebut or eliminate erroneous damage charges claimed against the military. An additional inspection should be completed prior to interchange upon return from movement.



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CHAPTER 14

VEHICLE LOADS AND LOADING

14-1. General

a. Since the primary mission of motor transport units is to provide transportation in the form of motor vehicles to support military operations, it is essential that the operating personnel of these units be trained in and aware of the principles of vehicle loads and loading. This includes not only the movement of cargo, but also the transport of personnel (chap 15).

b. It is the truck unit commander's responsibility to assure that this training is conducted and that, during operations, these principles are observed and adhered to. He is assisted in these matters by his platoon officers and noncommissioned officers (NCO's) and the truckmaster, who not only conduct and supervise the required training but who in the supervision and observation of unit operations are able to make certain that operating personnel comply with the principles and procedures for proper loads and loading.

c. Vehicle operators are not normally required to load and unload their vehicles or to assist with the loading and unloading; this is the responsibility of the agency or unit being provided transport support. However, local standing operating procedures (SOP's) and operating directives and/or the particular situation may require driver participation in loading and unloading operations.

14-2. Vehicle Cargo Capacities

The vehicle data plate mounted on the dashboard of a military vehicle prescribes the cargo capacity, in pounds, of that vehicle. It indicates a maximum payload for that vehicle for both cross-country and highway operations. For instance: the data plate of the 2 1/2-ton cargo truck indicates that that vehicle can transport a payload of 5,000 pounds or 2 1/2 tons when operating cross country (off the road), but when operating on the highway its authorized payload is increased to 10,000 pounds or 5 tons. The data plate also indicates, where applicable, the towed load capabilities of the vehicle under these same operating

conditions. These rated payloads are not to be exceeded except in cases of emergency, and then only upon approval by proper authority. Such authority, in the case of the motor transport organization and in the absence of any other orders or directives, would be the highest command level of the motor transport service.

14-3. Vehicle Load-Limiting Factors

By design standards a vehicle has a given cargo area—measured in cubic feet and governed by the length, width, and height of the cargo bed of the vehicle—and a given payload or weight capacity as discussed in paragraph 14-2 above. Theoretically, a perfect cargo load would be one with the exact cubic measure and exact weight in pounds of these design factors. However, it is seldom if ever that these conditions are met; other factors which may limit a vehicle load enter the picture.

a. *Weight of Cargo.* Some cargo, especially ammunition, is so compact and heavy in relation to its size that to fill the available vehicle cargo space would result in a serious overloading of the vehicle.

b. *Bulk of Cargo.* Some cargo such as cartons of clothing and equipment is relatively light in comparison to its bulk, and available cargo area is filled before the weight capacity of the vehicle is reached.

c. *Shape of Cargo Items.* In some instances, cargo such as prefabricated buildings may be of such an odd shape that, although one piece or bundle neither weighs as much as the vehicle can carry nor occupies all of the cargo space available in the vehicle, a second piece or bundle cannot be properly and safely loaded onto the vehicle.

d. *Terrain Features.* The nature of the terrain over which vehicles are to be operated affects vehicle loads. Although a 2 1/2-ton cargo truck is rated to transport a load of 10,000 pounds on highway, if that highway is a twisting, torturous road in a mountainous area, reduced loads may be required. On the other hand, if a cross-country operation is conducted on a hard, dry salt flat the

normal cross-country load capacity can, and should, be exceeded.

e. Weather Conditions. Adverse weather has a direct bearing on vehicle operations. Snow, rain, sleet, and ice seriously affect vehicle traction, handling, and stopping. What may be a satisfactory load on a dry-surfaced road can prove to be a disastrous one on the same road under adverse weather conditions. There are no set rules or guidelines governing this situation. Commonsense and good judgment must be exercised and vehicle loads adjusted as required to meet the conditions of a given situation.

14-4. Cargo Loads and Loading (TM 55-310)

a. Correct loading of cargo is essential to a reasonable vehicle life and the full use of vehicles. The full use of vehicle carrying capacities is essential to efficient and successful supply movements.

b. If dangerous cargo such as ammunition or other explosives or gasoline or other highly flammable liquid is being transported, failure to take proper precautions in loading and unloading may cause explosions or fires resulting in casualties to personnel and damage to vehicles.

c. For successful supply movements and efficient use of equipment, each vehicle should, insofar as practicable, contain loads which—

(1) Will safely fill the cargo space of the vehicle, or be of the maximum weight allowable under the conditions under which the vehicle is operated.

(2) Consist of one type of cargo only—that is, rations, ammunition, clothing, etc.—or consist of cargo of related types and of combining size, shape, and weight.

(3) Are for one destination only, or which are properly loaded for cargo removal at successive destinations. If vehicles are loaded for delivery of cargo to several destinations and the material on the bottom must be unloaded first, time and effort will be wasted in moving top items to reach those at the bottom. However, such loading may sometimes be necessary due to varying sizes and weights of the articles making up the load.

d. As is frequently the case in military operations, various desirable characteristics are in conflict. For example, the need for transporting the maximum practicable load is in conflict with the necessity of not overloading the vehicle with respect to operating conditions. Personnel must be

fully familiar with the probable conditions to be encountered and use sound judgment in adjusting conflicting requirements so as to best meet existing conditions.

14-5. Load Distribution

a. Load distribution is the “spreading out” of a cargo load within the cargo space of a vehicle so that the entire load is carried evenly by the wheels and axles of the vehicle.

b. The fact that a vehicle is not loaded beyond its rated capacity for a given situation does not necessarily mean that it is properly loaded; the cargo load must also be properly distributed. An improper load distribution can place an excessive load on one rear tire, or on a rear axle, or even so far forward in the cargo body that the front axles and tires are overloaded. Loads such as structural steel, iron pipe, and lumber, if not properly loaded, may project too far out over the rear axle thereby overloading the rear axle and tires. This situation has the secondary result of tending to lift the front wheels of a vehicle, reducing front wheel traction and making steering difficult.

c. Certain cargo may dictate that loads are not properly distributed; for example, heavy items of odd sizes or shapes may have to be loaded in such a manner that proper load distribution is not possible. When this situation occurs, the vehicle operator must exercise extreme driving care to reduce or eliminate the possibility of vehicle damage or accident.

14-6. Improper Loading Practices

a. There are three major improper vehicle loading practices which motor transport operating and supervisory personnel must be constantly on the alert to detect and correct. These practices, which may not only have a detrimental effect on the vehicles involved but also on the transport operation itself, are as follows:

(1) *Vehicle underloading.* When vehicles are loaded with less than their capacity for the existing conditions, there may be no serious effect on the vehicle itself. However, this practice definitely affects the efficiency of a unit and of the operation. It requires more vehicles than necessary to do a job, resulting in not only a waste of vehicles and personnel and unnecessary expenditures of fuel and lubricants, but also the creation of additional highway regulation and traffic control problems which can affect all highway movement in the area.

(2) *Vehicle overloading.* The primary objection to vehicles being loaded with loads greater than their capacity for the existing conditions is the damage to and failure of vehicles which may result. Vehicles must be deadlined for service and repair, and unit vehicle availability rates drop. This affects the efficiency of the unit and denies the use of these vehicles for any purpose until necessary repairs are made.

(3) *Improper load distribution.* When vehicles are loaded with an uneven or topheavy distribution of cargo weight, an undue strain is placed on vehicle components (tires, springs, frames, etc.) which can result in excessive wear and/or vehicle failure. Further, cargo loads may shift or fall from vehicles resulting in cargo damage or loss, or the unbalanced load may so affect vehicle handling as to result in accidents. Here again, deadline rates rise, use of vehicles undergoing service and repair is denied, and unit efficiency drops.

b. Unit operating and supervisory personnel must be on the lookout at all times for violations of good loading practices and take immediate corrective action when the need arises.

14-7. Loading Trailers

In loading trailers, since front and rear wheels are located so as to carry a balance of the payload weight, it is true that the center of the cargo body should also be the center of the load being hauled; also that a load of like material distributed evenly through the cargo body will balance itself properly on the trailer axles.

14-8. Loading Tractor-Semitrailer Units

Since the rear wheels of the tractor act to make the semitrailer a full trailer, the same principle is generally applicable when loading tractor-semitrailer units. A load of like material distributed evenly through the semitrailer cargo body will balance itself properly on the semitrailer axles and on the tractor axles. The most important thing to remember regarding distribution of a load when loading to maximum capacity is that the weight on any one of the axles should not exceed the maximum capacity and, if possible, that loads are distributed to secure a balance just forward of the rear axle of trucks and half-way between front and rear axles of trailers. It must be remembered that heavy cargo should be placed underneath light cargo and, subject to good weight distribution, cargo to be unloaded first should be on top of the load. Drivers should make

sure that cargo has been blocked, braced, and/or tied down properly to prevent load shifting or an unstable load which might present a hazard to the driver while en route.

14-9. Overlength/Overwidth Loads

a. Whenever practicable, loads which extend beyond the tail of the truck should be avoided and no load should extend over the driver's cab. If a load unavoidably extends more than 2 or 3 feet beyond the rear of the truck, it should be marked on the end so that it is plainly visible and will alert other drivers. In daylight, a red cloth at least 12 inches square is preferable; at night, security permitting, a lighted red lantern or other illumination device should be used. Depending on the load overhang, escort vehicles may be required to accompany the loaded vehicle.

b. Loads which extend over the sides of a vehicle cargo bed and cause that vehicle to occupy a greater width of a traffic lane than usual are especially dangerous since they affect both overtaking and oncoming traffic. These vehicles should be properly marked to the front and to the rear with a "wide load" sign to alert other traffic. In addition, the limits of the wide load should be marked with a red flag or red lantern or other device. In some cases, operating policies may require that overwidth loads be accompanied by escort vehicles, one traveling to the front of the wide load vehicle and the other traveling to the rear, each properly signed ("wide load following," "wide load ahead") to alert other traffic on the road.

c. Local regulations and directives will establish the procedures for marking and/or escorting vehicles transporting overlength or overwidth loads.

14-10. Towed Loads

Towed loads (other than semitrailer) are attached to their prime movers or towing vehicles by means of the lunette of the towed load being placed in a pintle on the towing vehicle. The pintle latch must be closed and secured before the load is moved. Safety chains should be used. Care should be taken in hooking up the lines (electrical and air) for lights and brakes on trailers.

14-11. Driver Hints on Operating Vehicles With Maximum Cargo Loads

Since the availability of vehicles is normally less than the need, and the use of the maximum calcu-

lated safe load for a vehicle is generally desired where good highway conditions exist, the driver must be aware of and realize that—

a. Shocks to the vehicle frame and running gear increase as the cargo load increases. Thus a chuckhole in the road that would cause no damage to springs, shock absorbers, or running gear of a 2 1/2-ton truck operating with a cargo load of 2 1/2 tons could, if this same vehicle were operated with a 5-ton load, cause a broken spring or other damage.

b. Heavy loads require more gear shifting and proper use of gear ratios. The driver must be careful in starting with (picking up) the load. Proper gear ratios must be selected for ascending and descending hills and grades.

c. Highway operations often involve driving at sustained higher speeds. Gear box lubricants and gear box and axle vents must therefore be checked and serviced more often.

d. It is *not* necessary to increase normal tire pressures for maximum loads. However, it is important to keep tires inflated to the proper pressure since heavier loads will flex underinflated tires, causing excessive tire wear and/or failure.

e. A heavily loaded vehicle requires more time and a greater distance to stop than a vehicle carrying a lighter load. The driver must keep this in mind during operations, especially on road surfaces offering poor or reduced traction because of weather or other conditions.

14-12. Cargo Protection and Security

a. The protection and security of cargo en route is the responsibility of the transporting unit. If vehicles are dispatched individually, this responsibility rests with the vehicle operator. In

convoy operations or when vehicles are dispatched in small groups, this responsibility is shared by the driver and the individual in charge of that convoy or small group of vehicles.

b. Protection and security of cargo encompasses not only protection and security against loss through pilferage, but also loss or damage resulting from shifting of cargo, cargo falling from a vehicle, and/or weather. Actions which can be taken to minimize cargo loss or damage include—

(1) *Proper loading of cargo.* This reduces the possibility of damage due to improper weight placement or shifting loads, and loss from the vehicle of cargo loaded above the cargo bed sides or stakes.

(2) *Proper use of tarpsaulins, curtains, and tiedown devices.* The use of these items not only secures a load on a vehicle, but also offers protection against pilferage. In addition, tarps and curtains protect cargo from weather (sun, rain, snow) and other elements (sand and dust).

(3) *Inspection and observation en route.*

(a) At halts, inspections of cargo loads may reveal discrepancies (loose tiedowns or shoring, tarps not properly secured, loads shifting) which if corrected on-the-spot will eliminate or minimize the possibilities of cargo damage and loss.

(b) Observation of other vehicles by drivers and supervisory personnel operating in convoys or small groups of vehicles can result in the spotting of possible trouble (loose tarps, loose or shifting loads) or the recovery of cargo that may fall from another vehicle, and also any attempts to pilfer cargo. Drivers may also use their outside rear-view mirrors to check on their own cargo loads.

CHAPTER 15

MOVEMENT OF PERSONNEL

15-1. General

a. The requirements imposed by troop moves may create a substantial demand for motor transport support and may involve widely varied operations ranging from the transport of an infantry company in support of a division operation to the movement of casual troops to or from a troop staging area.

b. This chapter concerns operational guidance and techniques applicable to the transport of troops. For a further and detailed discussion of command policies during troop moves and the methods employed to accomplish troop moves, see FM 55-30.

c. To assure the success of a troop movement operation, the truck unit providing the transportation and the unit being transported will establish and maintain close coordination and liaison on all pertinent operational matters and procedures. These may include such items as the selection of entrucking and detrucking points, procedures for entrucking and detrucking personnel, handling of personal gear and impedimenta, and standards for conduct and discipline of personnel.

15-2. Type and Troop Capacity of Motor Transport Unit Vehicles

a. The 2 1/2- and 5-ton cargo trucks assigned as task vehicles to the light and light-medium transportation truck companies are the types of vehicles most generally employed for the movement of troops. These vehicles are designed with troop seats which permit troops to ride sitting down and with reinforced sides which offer a backrest to seated troops. The tailgate has a built-in troop step which, when the tailgate is dropped (in the lowered position), provides an aid for troops in mounting or dismounting the truck. A safety strap which fits across the rear of the truck above the tailgate is also provided. With the tailgate up and the safety strap fastened in position, the danger of a rider falling from the rear of the truck is minimized. The tarp and end curtains which are part of the on-vehicle-

material may be tied in place to protect troops in cold or wet weather, or the end curtains may be removed and the tarp sides rolled up in hot weather. The 1 1/2-ton trailers provided with these trucks may be used to haul troop equipment and/or impedimenta.

b. The 12-ton stake and platform semitrailer combinations assigned as task vehicles to the transportation medium truck company, cargo, and to the light-medium truck company, are not recommended for use to transport personnel except as an emergency measure and then only in accordance with paragraph 3-1, AR 385-55. These vehicles are designed primarily to haul cargo and are not equipped with troop seats. The cargo bed height is greater than that of the lighter vehicles and no troop step is provided, making entry into or departure from the vehicle more difficult. The side panels and end gate of this vehicle are not rigid as in the lighter vehicles. There have been numerous instances where troops riding in a semitrailer either leaned heavily on, or were thrown against, the sides of the vehicle as it negotiated a turn and the sides failed, throwing troops onto the roadway with resultant injuries and casualties. If the 12-ton cargo semitrailers are to be used for troop moves, the following actions should be taken:

(1) Troop seats should be installed; these must be firmly attached to the bed of the semitrailer. If installation of troop seats is not practical, troops will be required to be seated on the cargo bed of the semitrailer.

(2) Cross chains or other similar devices should be used to tie the tops of stake sections on opposite sides of the semitrailer to each other, thus strengthening the stake side sections and reducing the possibility of failure.

c. For planning purposes, the following vehicle troop carrying capacities are offered; these capacities may be adjusted by local directives and standing operating procedure (SOP) to meet the current situation:

- (1) 2 1/2- and 5-ton trucks, cargo.
 - (a) For short hauls—20 troops.

(b) For hauls of more than 4 hours' duration—2 1/2-ton, 16 troops; 5-ton, 18 troops.

(2) *12-ton stake and platform semitrailers*—50 troops (seated).

15-3. Responsibilities (See Also FM 55-30)

a. The driver of a vehicle operating in a convoy move or the senior truck unit individual riding with the driver is responsible for the safe and proper operation of that truck and for compliance with operating instructions issued by the truck unit. He assures that the senior individual of the troops being transported in the vehicle is familiar with and passes on to the other troops riding in that vehicle, regulations and instructions pertinent to the conduct of the move.

b. The senior individual of the troops in each truck commands the personnel being transported in that truck. He is responsible for their discipline and their compliance with applicable convoy regulations and other SOP's. He will not interfere with the proper operation of the truck, but it is his duty to take immediate corrective action in the case of any dereliction of duty on the part of the operator and to report such incident to his appropriate superior.

c. In individually dispatched vehicles, the senior person in that vehicle is responsible for seeing that the driver operates the vehicle properly and safely and obeys all pertinent regulations and instructions.

15-4. Entrucking Procedure

Entrucking is the process of loading personnel into motor vehicles in preparing to move by motor transport.

a. An entrucking point should require minimum marching by foot troops and minimum movement of supplies and equipment, afford adequate space for entrucking, present no undue obstacles to the movement of vehicles, and offer ready access to the selected route of march. There are many methods of entrucking; however, only three are described here to illustrate possible methods.

(1) When there is sufficient time for planning the move and for prepositioning troops, the troop commander may ascertain the makeup of the motor column that will transport his unit, the capacity of each vehicle, and the gaps between vehicles as they halt for entrucking. He then divides his command into groups corresponding to

the location and capacity of the vehicles. At the prescribed hour, the troop commander forms his unit along the line of march of the vehicles, with intervals between groups corresponding to the gaps between vehicles at the halt. On command, all troops mount their assigned vehicles simultaneously. This is the quickest method of entrucking, but it requires careful planning and adequate space for trucks and troops.

(2) When time and space are not adequate for the method of entrucking described in (1) above, the trucks may be parked and the troops marched alongside in single file or in columns of two's or three's and counted off into vehicle groups.

(3) A combination of the two methods may be used for general troop loadings by assigning each section, platoon, or company to a selected number of trucks. Upon command, all units are marched simultaneously alongside their assigned trucks. Each platoon or section leader counts off his men into groups as they mount the assigned vehicles.

b. The driver of each vehicle is responsible for unfastening the safety strap and lowering the tailgate before personnel are permitted to mount the vehicle. After all personnel have mounted, the driver closes and secures the tailgate and fastens the safety strap.

15-5. Tactical Loading

Loading for a tactical motor movement is normally done in the manner best suited to the speedy employment of troops according to their normal methods of combat. Full use of transport space is subordinated to tactical considerations. However, techniques and procedures of entrucking and detrucking used in administrative movements may be modified to fit the tactical situation. Adequate security must be provided since troops are particularly vulnerable in entrucking and detrucking areas. Security must include cover and concealment, dispersion in conformity with tactical considerations, and the highest standards of troop discipline to meet requirements for defense against nuclear weapons.

a. Packs, other than combat packs, normally are not worn in military vehicles. They should be staked on the floor between or under the seats.

b. Duffel bags are normally loaded in trailers towed by the vehicle transporting the personnel, but they may be loaded on vehicles with the men

to whom they belong. The latter procedure reduces the number of men who may occupy the vehicle with comfort but lessens the probability of loss of equipment.

c. Individual arms should remain with the individual soldier. However, troop commanders must instruct their troops in the proper manner of entrucking with arms in order to eliminate the possibility of accidents. Each man should board a vehicle without his weapon. This can be done by having each individual either pass his weapon into the vehicle before boarding or pass his weapon to another individual on the ground and retrieve it after boarding. The vehicle driver may assist in this procedure.

d. All items of individual equipment not needed on the march may be loaded in separate trucks or trailers by troops detailed for this purpose.

15-6. Detrucking Procedure

Detrucking is the unloading or dismounting of personnel from motor vehicles after completion of a move by motor transport.

a. Normal detrucking should provide for the reassembly of units, prompt unloading of troops and equipment, clearing of unloading areas, and staging and reuniting of troops and their equipment. Except in an emergency, the order to detruck should not be given by the commander until drivers have lowered tailgates. This decreases the possibility of injuries. Possible methods of detrucking are as follows:

(1) When the area is suitable, the column may be halted in close formation and all troops detrucked simultaneously. This method is quick but may require troops in the rear to march the length of the column to assemble or to reach their destination.

(2) Successive trucks, truck squads, or platoons may pull up to a designated point at which the troops detruck and assemble.

(3) When troops are going into billets or bivouac, a dispersal point may be designated from which guides conduct sections of the truck column to the vicinity of the billets or bivouac where the troops detruck with their equipment.

b. Emergency detrucking practice should be included in the training of troops since the speed and safety with which troops can leave their vehicles and be prepared for action may be a deciding factor if the enemy attacks. Emergency detrucking may require jumping over the side

of a vehicle and may, if troops do not exercise care, result in injuries. However, men trained in the proper techniques of emergency detrucking can dismount quickly with their weapons ready for use with little danger of injury.

c. In normal detrucking, troops should not be permitted to dismount until vehicles have come to a full stop, the vehicle tailgate is lowered, and the safety strap unfastened. Then upon the command or signal of the commander or his authorized representative, troops will dismount.

15-7. Reconnaissance and Security

Reconnaissance and security are vital to any tactical movement of troops. Timely and accurate information on the enemy and the terrain is of primary interest to the commander in making his decisions as to movement and formation of his command. Security elements assure the continued advance of the command, protect it from surprise ground attack, deny observation by the enemy, and give warning in case of air attack. Reconnaissance and security measures may include the following:

a. *Covering Force.* The covering force normally operates well forward of the main body with the mission of early development of the situation; crushing enemy resistance when possible; and deceiving, delaying, and disorganizing enemy forces until the main force can prepare for action. The covering force precedes the advance guard of the column and provides its own security.

b. *Advance Guard.* The advance guard has the mission to prevent delay of the main body and to protect it against surprise attack. Its size, composition, and disposition vary with the mission, terrain, and tactical situation.

c. *Flank Guards.* Flank guards cover routes of approach that might be used by hostile forces to attack the flanks of the column. The flank guards drive off harassing forces and give timely warning of the approach of larger enemy forces.

d. *Rear Guard.* The rear guard follows and protects the main body on the march, defeating or delaying hostile forces attacking from the rear, protecting the trains, and collecting stragglers.

e. *Defense Against Air Attack.*

(1) Air guards are placed on all vehicles to warn of approaching enemy aircraft. Defense against air attack may be achieved actively by employment of both crew-served and individual

weapons against hostile aircraft (app H). Passive defense measures include such actions as—

(a) Movement of vehicles off the road into cover on either or both sides of the road or, where no cover is available, into a widely dispersed, irregular pattern to offer a minimum target.

(b) Increase of convoy speed and vehicle gap.

(2) Operating instructions and unit and higher headquarters SOP's and directives will dictate the action to be taken in a given situation.

f. Communication Security. Normally prescribed in communications-electronics standing instructions, communication security assures adequate protection against enemy communication intelligence activities such as radio interception, position finding, traffic analysis, and cryptanalysis.

g. Army Aviation. Army aviation, when available, may be used in reconnaissance, selection of alternate routes, movement of security forces, air cover, and highway regulation and control.

CHAPTER 16

OPERATIONAL DATA

16-1. General

a. Planning for motor transport operations is a continuous process. Each day as requests for motor transport support are received, whether it be at the highest echelon of command or at the company level, requirements must be analyzed and plans, whether they are detailed or the conventional "day-to-day" type, are made for their successful completion.

b. Although planning factors are contained in FM 101-10-1, FM 101-10-3, and FM 55-30, these are advance planning factors and are for long-range or general planning. There is a great difference between the broad advanced planning process and the precise operational planning required to meet daily motor transport commitments. In the latter there is no substitute for actual operating experience data to assure that assignments are met.

c. Motor transport units at all levels must provide for the collection, evaluation, and compilation of operational data. This includes not only those data pertinent to vehicle operations, but also data relating to roads and road nets over which vehicles are or may be operated.

(1) At battalion and higher levels, a reporting system must be developed and procedures established for analysis of operational reports and records and for the collection of data. As soon as experience factors are developed, they should be used in planning and operations instead of the broad factors contained in the references noted in *b* above.

(2) At the company level, data may be collected and maintained not only in accordance with the directives of higher headquarters, but also informally as the unit commander may desire. Sources from which operational data may be obtained include the unit daily dispatch records (DA Form 2400, 2408-1, 2401, 2404, and the vehicle status board); convoy commanders' report; unit reconnaissance reports; copies of vehicle documentation provided by using agencies; and personal observation by drivers and unit operating

and supervisory personnel in the performance of their daily tasks.

16-2. Vehicle Planning Factors

Planning factors and operational data to be developed at company level for the type task vehicle assigned a unit, or at battalion and higher echelons for their attached operating truck units, include but are not limited to—

- a.* Average daily trips per truck.
- b.* Average daily vehicle availability.
- c.* Loading and unloading times.
- d.* Daily mileage factors.
- e.* Vehicle dispatch times (in hours).
- f.* Vehicle operational times (in hours).
- g.* Average vehicle load (cargo/personnel).
- h.* Daily ton miles and passenger miles.
- i.* Daily empty mileages.
- j.* Average vehicle maintenance times (unit and direct support/general support).
- k.* POL products consumption.
- l.* Vehicle accidents (types/causes).

16-3. Road and Road Net Data

There are numerous factors and conditions relating to the roads and road nets over which motor transport units operate which must be considered when planning for operations and for which data must be compiled. These include such information as —

- a.* Physical characteristics of roads.
- b.* Type of grades and curves.
- c.* Bridges, fords, ferries, underpasses, and any other factors which may limit vehicle width, height, or weight capacities. (Task vehicle characteristics will have a direct bearing on these factors.)

d. Repair and/or maintenance requirements for roads and bridges.

e. Weather effects on roads and road surfaces.

f. Other traffic (military and civilian).

g. Enemy activity (intensity, type, possibility of).

16-4. Other Planning Considerations

It is entirely possible that the demands of a critical tactical or logistic mission may impose on motor transport organizations or units support requirements which exceed normal operating capabilities but which, due to the press of circum-

stances, must be met. In meeting the demands of such a situation, actions to be considered and taken to provide increased transport capabilities include—

a. Increasing the cargo load on vehicles.

b. Increasing the number of hours vehicles are available or operated daily.

c. Increasing vehicle operating speeds (decreases time required to travel from origin to destination).

d. Decreasing vehicle loading and unloading times.

e. Decreasing maintenance service times.

CHAPTER 17

MAINTENANCE

17-1. General

Maintenance is a command responsibility. Commanders should insure that all resources at their disposal are in a constant state of readiness. The unit commander is responsible for the dissemination of instructions for preventive and organizational maintenance services within the company. He should make certain that instructions and procedures pertaining to organizational maintenance are complied with and that authorized maintenance materials are available at all times. Supervisors should make certain that personnel under their jurisdiction are trained in proper preventive maintenance procedures and that these procedures are being carried out. The key to good maintenance management is TM 38-750. The records involved in this system provide the facts essential for evaluation and decision at all levels of command. The equipment records are designed so that they may be used by any unit any place in the world regardless of the kind of equipment.

17-2. Categories of Maintenance

Maintenance operations are divided into four categories to relate maintenance to other military operations and to provide a basis for identifying organizations for maintenance operations in the Army. The division of maintenance operations into categories also facilitates the assignment of maintenance responsibility to specific levels of command and permits the orderly and efficient distribution of maintenance personnel, tools, repair parts, and facilities. The four categories are organizational, direct support, general support, and depot maintenance.

a. Organizational Maintenance. The category of maintenance for which all Army units are responsible is organizational maintenance. It is a means by which equipment is maintained at the required level of operational readiness. Organizational maintenance includes both preventive maintenance—that is, preventing failures before they start—and the organizational level repairs

authorized in the appropriate technical manuals for each item of equipment. Unit commanders should refer to DA Pamphlet 750-1 for assistance.

(1) *Equipment operators.* An equipment operator's duties consist of regular preventive maintenance services such as inspecting, cleaning, servicing, preserving, lubricating, and adjusting as prescribed by the -10 operators manual for the equipment. These duties must be performed regularly and systematically. When certain deficiencies are beyond the operator's capabilities, he should immediately notify his supervisor or a mechanic. The operator is the key to preventive maintenance.

(2) *Organization mechanics.* Work requiring a greater skill than that possessed by the operator is performed within the company by trained mechanics and specialists. They have available to them various types of tools, test equipment, and repair parts. Organization mechanics replace minor parts and subassemblies and perform periodic inspections and services. They are also required to inspect and assist with preventive maintenance performed by the operator. Repairs by organizational mechanics will be limited to those authorized in the maintenance allocation chart of the -20 manual pertaining to the equipment. Repairs beyond the capability of the organization become the responsibility of the next higher maintenance category—direct support maintenance. Using units are responsible for delivering unserviceable equipment to the direct support unit when it is within their capabilities. Otherwise, assistance, in the form of a mobile repair team, for example, may be requested from the supporting direct support unit.

b. Direct Support (DS) Maintenance. DS maintenance is that maintenance normally authorized and performed by designated maintenance activities in direct support of using units. DS units repair end items or assemblies for *return to user*. DS maintenance activities—

(1) Provide maintenance primarily by re-

placement of major assemblies and subassemblies, furnishing parts to local using units, furnishing technical assistance, and performing on-site repair as appropriate.

(2) Provide direct exchange service by supplying selected serviceable items in exchange for unserviceable assemblies, components, or end items.

(3) Repair end items of equipment by replacing unserviceable parts, components, or assemblies, and repairing selected assemblies and components.

(4) Evacuate unserviceable equipment that cannot be repaired either to a point where repairs can be made or to a collection and classification unit.

(5) Assist in equipment maintenance inspections and inspection of organizational maintenance operations and provide assistance and training in the maintenance of proper repair parts supply levels and inspection of repair parts supply. However, maintenance inspections are a command responsibility.

c. General Support (GS) Maintenance. GS maintenance is that maintenance authorized and performed by designated organizations in support of the supply system. Normally, by repair or overhaul, materiel is put in a ready-to-issue condition. GS maintenance activities—

(1) Receive equipment for repair from DS units, collecting points, supply units, and depots for which they are assigned maintenance support responsibilities.

(2) Assist DS maintenance units or activities by accepting work that is beyond the capability of the DS unit to reduce workloads in these units.

(3) Repair end items and overhaul assemblies and subassemblies.

(4) Return repair parts to stock with the exception of those items repaired under the provisions of (2) above or in the case of a one-of-a-kind item that is not replaceable through supply channels and that must be returned to a using unit through DS channels.

d. Depot Maintenance. Depot maintenance is that category of maintenance which is performed on materiel requiring a major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end items.

17-3. The Army Maintenance Management System (TAMMS)

TAMMS is designed to provide commanders with the information they need to manage their equipment resources. Forms and records used in the system are covered in TM 38-750. The procedures involved in the use and preparation of these forms and records are simple enough to be used by an operational unit in the field, yet they are complete and accurate enough to provide pertinent information usable at higher levels of command.

a. Organization Use. Within the unit itself, the records form a maintenance tool for the commander. The information contained in these records permits the commander to properly evaluate such factors as—

- (1) Equipment operations.
- (2) Modification work orders required and applied.
- (3) Equipment availability.
- (4) Equipment failure frequency.
- (5) Repair parts requirements.
- (6) Unit materiel readiness.
- (7) Equipment shortcomings and deficiencies.
- (8) Support requirements.

b. Field Commands and National Agency Use. TAMMS records provide most of the data forwarded to field commands and national agencies for evaluation and planning purposes affecting maintenance resources, policies, and requirements.

c. Records. Records covering the operation, maintenance, and history of equipment are prescribed in TM 38-750. Not all of the records prescribed will be required for any one piece of equipment. The fact that a record is not prescribed for a specific item of equipment, however, does not exclude its use for controlling the operation and maintenance of that item.

(1) *Operational records* provide the means for an organization to control its operators and equipment, to plan its operations, and to insure the optimum use of its equipment. Operational records include the following:

(a) *DA Form 2400 (Equipment Utilization Record).* This form provides a record for the control of equipment utilization, in a chronological sequence, when the equipment logbook is not

used. Detailed instructions for its use are contained in TM 38-750.

(b) *DA Form 2401 (Organizational Control Record for Equipment)*. This form provides a ready identification as to the user and location of equipment while on dispatch or in use. Detailed instructions for its use are contained in TM 38-750.

(c) *SF 91 (Operator Report on Motor Vehicle Accidents)*. This form is filled out by an operator at the time of, and at the scene of, an accident and is used to prepare the accident report (DA Form 285). Detailed instructions for its use are contained in AR 385-40, AR 385-55, and TM 21-305.

(d) *DA Form 348 (Equipment Operator's Qualification Record (Except Aircraft))*. This form provides a means for recording data covering an operator's qualifications and driving experience. Detailed instructions for its use are contained in AR 58-1, AR 385-55, and AR 600-55.

(e) *SF 46 (US Government Motor Vehicle Operator's Identification Card)*. This form is issued to qualified drivers as a permit to operate military vehicles. Detailed instructions for its use are contained in AR 58-1, AR 385-55, AR 600-55, and AR 600-58.

(2) *Maintenance records* are established to control maintenance scheduling, inspection procedures, and repair workloads. These records are used in determining the current status of equipment readiness, reliability of equipment, and use of equipment. Certain records are designed to permit prompt analysis of causes of equipment failures, mortality rates of components, and supply support requirements. Detailed instructions for the use of these records are contained in TM 38-750. Equipment maintenance records include the following:

(a) *DA Form 2402 (Exchange Tag)*. This form has a three-fold purpose: for direct exchange of an item in accordance with AR 710-2, as an identification tag for equipment improvement recommendations, and as warranty claim exhibits.

(b) *DD Form 314 (Preventive Maintenance Schedule and Record)*. This form provides a means for recording scheduled and performed maintenance services required at the organizational maintenance level, and it also provides data for readiness reporting.

(c) *DA Form 2404 (Equipment Inspection and Maintenance Worksheet)*. This form provides a standard procedure to record equipment faults, results of inspections, maintenance

services, diagnostic checkouts, equipment serviceability criteria checks, and technical evaluations.

(d) *DA Form 2405 (Maintenance Request Register)*. As its name implies, this register is a consolidated record of all job orders (DA Form 2407 and/or DA Form 2410) generated, received, and processed by maintenance activities.

(e) *DA Form 2406 (Materiel Readiness Report)*. This form provides Department of the Army staff and commanders at all levels information as to the readiness status of equipment in the hands of using organizations. The materiel readiness report, along with the unit readiness report (chap 20), provides the commander with a yardstick by which to measure the readiness posture of his unit and the means to report the results of this measurement.

(f) *DA Form 2407, (Maintenance Request) and DA Form 2407-1 (Maintenance Request—Continuation Sheet)*. This form, with continuation sheet when required, is used to request GS and DS support maintenance or modification, to report accomplishment of a modification work order, to report support maintenance actions, to submit equipment improvement recommendations, to submit warranty claim actions, and to report receipt of defective material not due to damage in shipment.

(g) *DA Form 2410 (Component Removal and Repair/Overhaul Record)*. This form provides a means of recording and reporting data required for controlling selected items of equipment. Such data include but are not limited to identification and location of item, current serviceability status, and the major item of equipment on which the reportable item is installed or from which it was removed.

(3) The *equipment log* is the historical record for a specific item of equipment. It is a control device for the mandatory recording of events during the life cycle of the item including receipt, operation, condition, maintenance accomplished, modification, and transfer. This record begins at the time an item is delivered by the manufacturer. The record is permanently identified with the item until the item is finally "washed out" of the Army inventory. The most important use of the equipment log is to provide commanders with up-to-date information concerning the readiness of the item of equipment to which the log applies. Instructions for the application, preparation, and use of equipment historical records are contained in TM 38-750. Only the records that are applicable to the specific item will be a part of the equipment log.



CHAPTER 18

UNIT STANDING OPERATING PROCEDURES

18-1. General

A unit standing operating procedure (SOP) is a set of written instructions issued by the unit commander which covers those areas of unit administrative and tactical operations lending themselves to a definite or standardized procedure without loss of effectiveness. The SOP is used to simplify the preparation and transmission of orders, to simplify and perfect the training of troops, to facilitate operations, to minimize confusion and errors, and to promote understanding and teamwork between the commander and his subordinates. SOP's should be prepared to cover applicable unit operations and be available to all personnel for guidance in the absence of other instructions or orders. The detail contained in an SOP depends on the desires of the commander and the directives of higher headquarters; however, an SOP must contain sufficient information to serve as a guide for personnel newly assigned to the unit.

18-2. Requirements and Scope

The requirements for and the scope of any unit SOP vary depending on the size of the unit, its organization, and its normal mission. However, certain prerequisites are common to all units. These include conformity with the SOP of the next higher headquarters, sufficient flexibility to permit addition or deletion without requiring major revision, sufficient detail to be clearly understandable, and avoidance of repetition of material contained in manuals available within the unit. SOP's should not be so restrictive as to discourage subordinates from exercising judgment and/or initiative.

18-3. Items to be Covered by SOP

a. SOP's may be prepared for or include one or more of the following unit activities:

- (1) Administration.
- (2) Supply.
- (3) Maintenance.
- (4) Mess.

- (5) Operations.
- (6) Unit moves.
- (7) Unit training and readiness.
- (8) Security and defense (chemical-biological-nuclear, rear area protection, internal).
- (9) Safety.
- (10) Demolition of equipment.

b. A suggested outline for unit SOP's is contained in appendix Q. For SOP's dealing in general areas, subject matter will be discussed in the detail considered sufficient for understanding. For SOP's dealing with motor transport matters, greater detail, including specific operational data as follows, should be presented:

- (1) Standard convoy organization, including convoy formation and the designation of element commanders as applicable.
- (2) Composition and duties of advance, reconnaissance, and trail parties.
- (3) Responsibilities for selecting and/or manning start and release points.
- (4) March discipline, use of lights, and procedures at halts.
- (5) Operating time and distance factors and rates of movement.
- (6) Use of guides, signs, traffic escorts, and other control measures.
- (7) Vehicle loads and loading.
- (8) Active and passive defense measures.
- (9) Supply, maintenance, and evacuation procedures.
- (10) Communications, reports, and liaison.
- (11) Location of or availability of maintenance, POL, medical, and other support facilities.

18-4. Publication Format

The unit SOP is prepared in the form most convenient for use by the unit. Small units normally prepare one SOP covering all major operational functions of the unit in looseleaf or pamphlet form and prepare individual SOP's for each func-

tional area as is deemed proper. The latter are used as annexes to the unit SOP. (See annexes I, II, and III to appendix Q.) Larger units normally

prepare separate SOP's for diverse functions, issuing only applicable sections to subordinate elements.

CHAPTER 19

UNIT MOVEMENT PLANNING GUIDANCE

19-1. General

A unit commander must concern himself with the necessary actions, based on the unit's contingency status, to render his unit ready for deployment. He must also be prepared to deploy it, either within the continental United States (CONUS) or an overseas area, from CONUS to an overseas area, or from an overseas area to CONUS. This chapter provides a basis for the unit commander, company officers, and noncommissioned officers to familiarize themselves with various actions required within a unit to effectively prepare and execute a movement. In preparing a detailed movement plan, unit commanders must consult AR 220-10, Preparation for Oversea Movement of Units; TM 55-604, Troop Movement Guide; and all local directives prescribing procedures for performing specific preparatory actions.

19-2. Types of Movements

There are two principal types of movements: administrative and tactical. An administrative movement is one during which no enemy interference or contact is anticipated. Emphasis is on economy; that is, maximum use of the transport capability. A tactical movement differs in that personnel, supplies, and equipment are loaded so that they may be unloaded easily and rapidly in an order that facilitates the accomplishment of the tactical mission. Here the maximum use of the transport capability is secondary to successful accomplishment of the mission.

19-3. Planning

Planning for a unit to move is a continuous process. Planning begins long before the actual move, continues during the preparation for movement, and carries on until the move is completed (app R). A unit commander should start preparing his unit for a move upon assuming command. He should review any existing movement plans, standing operating procedures (SOP's), and loading plans for completeness and correctness. If the unit is newly activated or if no plans exist, the

unit commander should prepare a movement plan complete with SOP's and loading plans. All types of tables of organization and equipment (TOE) units should have up-to-date movement plans regardless of unit status; for example, service school support units. For actions that a unit commander should concern himself with on a continuing basis, see section II, appendix R. The discussion contained in this chapter deals with actions to be taken to prepare for a movement from CONUS to overseas. With modification, however, it may be applied to a movement in any area.

19-4. Warning Order

The first indication that a unit will move is the receipt of a warning order. Receipt of this order prompts the following actions:

a. The unit begins preliminary preparation for the move.

b. As appropriate, the overseas commander provides, through channels, equipment and planning information to the deploying unit which will include—

(1) Oversea Army Post Office for deploying unit.

(2) Authorized items which may be deleted from overseas shipment with the unit.

(3) Items the overseas commander desires shipped with the unit.

(4) Authorized stockage list and expendable supplies requirements.

c. For actions required to be taken by a unit commander on receipt of a warning order, see section III, appendix R.

19-5. Movement Directive and Movement Order

The next movement notice received by a deploying unit is the *movement directive*. This is the authority for the movement and the basis for appropriate action by all agencies concerned with the move. It is usually issued 90 days in advance

of the deploying unit's personnel shipment readiness date. Based on this directive, the installation or activity issues a *movement order* to the deploying unit. The movement order implements the movement directive and adds any additional instructions deemed necessary to properly prepare the unit for the move. For actions required on receipt of the movement order, see section IV, appendix R.

19-6. Unit Movement Plans

Unit movement plans contain up-to-date logistic data reflecting a summary of transportation requirements, priorities, and limiting factors incident to the movement of the unit by highway, water, rail, or air transportation. The contents of a movement plan may vary depending on the contingency status of the unit, guidance from higher headquarters, and the effort the unit commander puts into preparation of the plan. As a minimum, the unit movement plan should contain the following:

- a. A detailed listing of personal baggage, organizational equipment, and expendable and non-expendable supplies in shipping configuration.
- b. The organization for movement; that is, the SOP for the movement staff, advance parties, quartering parties, and rear detachments.
- c. Procedures to be followed at home station, en route, and at destination.
- d. Unit loading plans (para 19-8). For a recommended organization of a movement staff for a company size TOE unit, see figure R-1, appendix R.

19-7. Standing Operating Procedures

Many of the details relating to a unit move, such as composition of the march units; duties of advance, accompanying, and rear detachments; convoy security (for motor move); and deployment procedures at destination should be included in one or more unit SOP's. Minor changes in SOP's may be required from time to time, but basically, procedures vary little from movement to movement. The preparation of SOP's covering the details of unit movements relieves the commander of the necessity for repeatedly planning and issuing directives for the conduct of those operations which follow established patterns. A guide to the preparation of SOP's may be found in appendix Q.

19-8. Unit Loading Plans

a. Unit loading plans include all the individually prepared documents which, when taken together, present in detail all instructions for the movement of personnel and the loading of equipment. To insure effective and expeditious movement of unit personnel and equipment, unit loading plans should be kept current at all times.

b. Initial unit loading plans and any subsequent updating of such plans should be submitted to the appropriate installation transportation office for approval. One copy of the approved plan will be maintained on file in the appropriate transportation office.

c. Loading plans should be based on authorized or TOE personnel and equipment. They should also be modified to include supplies and equipment authorized by mission letters and movement orders when received.

d. The following loading plans should be prepared and maintained in each unit in anticipation of movement under contingency planning by the various modes:

(1) *DA Form 2940-R, Unit Loading Inventory and Checklist (Worksheet)*. This form is prepared for each category of unit equipment. It provides a numerical listing of all packages and vehicles to be shipped.

(2) *DA Form 2941-R, Unit Vehicle Loading Plan (Worksheet)*. This form is used when the unit moves to a terminal for oversea movement in organic transportation. It lists the personnel and packages to be transported in organic vehicles.

(3) *DA Form 2942-R, Unit Train Loading Plan (Worksheet)*. This form is used when the unit moves by rail. The plan shows the proposed distribution of personnel and equipment based on the railcars tentatively available for the unit loading. It requires adjustment when an actual move is made and specific railcars are assigned.

(4) *DA Form 2943-R, Unit Air Loading Plan (Worksheet)*. This form is used when the unit moves by air. To prepare this form, the specific type of aircraft must be known. It covers the type of cargo to be loaded in each aircraft, loading start time, estimated time required to load, special equipment requirements, and other data pertaining to the specific aircraft.

(5) *DA Form 2944-R, Unit Estimate of Aircraft Required (Worksheet)*. This form is used to determine the number and type of aircraft required to airlift a unit's equipment and personnel.

(6) *DA Form 2945-R, Unit Vessel Loading Plan (Worksheet)*. This form is used by units as-

signed a mission which requires a lift by a TOE transportation boat unit.

e. The use by truck units of assigned task vehicles to transport unit impedimenta and equipment when a unit moves from one location to another is a practice that must be discouraged. Task vehicles are assigned to fulfill transport missions, not for internal support of truck units. By carefully planned stowage of TOE equipment and through the elimination of excess and/or unauthorized items, a transportation truck unit can move all of its equipment using its authorized overhead (administrative) vehicles and have all assigned task vehicles available for support missions. This is particularly true when the unit makes its move in conjunction with providing support for a transport mission.

19-9. Operating Base Area Requirements

a. *General.* Each of the various types of transportation motor transport units requires an approximate-size field site within which it may set up its facilities and form which it may be expected to perform its mission. The operating base area requirement table offered in this manual (table 19-1) provides guidance to all levels of command, whether it be a planner developing requirements for the establishment of a base camp or a motor transport unit commander preparing to select a field site suitable for his unit. It is em-

phasized that the area requirements established herein are offered for guidance; in actual operations the terrain, weather, operational requirements, existing facilities, and local directives must be considered and, where applicable, will take preference over the figures and considerations governing in this manual.

b. *Types of Operating Base Areas.* From an operational viewpoint and considering requirements for dispersion of vehicles and facilities as dictated by the tactical situation, the operating base area requirements for motor transport units are classified as follows:

(1) *Minimum.* This is the formal type of field setup or bivouac under administrative conditions (hostile action is remote). Vehicles are parked on line in the unit motor park and tentage, both troop and administrative, on line in designated areas. Only a minimum distance is maintained between vehicles and unit facilities.

(2) *Average.* This is a field setup or bivouac under tactical conditions where friendly forces have air superiority (possibility of hostile air attack is remote) but an approximate 50-foot (15-meter) dispersion between unit vehicles and facilities is maintained to offer protection against loss resulting from hostile ground action including mortar or artillery fire.

(3) *Maximum.* This is a field setup or bivouac which considers a dispersion of approxi-

Table 19-1. Operating Base Area Requirements, Motor Transport Service Units

Type motor transport unit (by TOE)	Operational area requirements (square feet)		
	Minimum	Average	Maximum
55-11, Motor Transport Brigade	62,000 (250 × 250)	264,000 (515 × 515)	1,584,000 (1260 × 1260)
55-12, Motor Transport Group	38,000 (195 × 195)	138,000 (375 × 375)	828,000 (910 × 910)
55-16, Motor Transport Battalion	29,000 (170 × 170)	108,000 (330 × 330)	648,000 (805 × 805)
55-17, Transportation Truck Company (2½-Ton/5-Ton)	78,000 (280 × 280)	538,000 (735 × 735)	2,690,000 (1640 × 1640)
55-18, Transportation Truck Company (Stake and Platform; Petroleum; Refrigerator)	78,000 (280 × 280)	538,000 (735 × 735)	2,690,000 (1640 × 1640)
55-19, Transportation Car Company (Support Command; Airborne)	78,000 (280 × 280)	538,000 (735 × 735)	2,690,000 (1640 × 1640)
55-28, Transportation Truck Company (Heavy)	75,000 (275 × 275)	420,000 (650 × 650)	1,815,000 (1350 × 1350)
55-67, Transportation Truck Company (Light-Medium)	96,000 (310 × 310)	634,000 (800 × 800)	3,264,000 (1810 × 1810)

Notes: 1. Figures in parentheses indicate approximate dimensions (in feet) of square area required to provide square feet indicated.

2. For comparison purposes, a regulation football field is 300 feet long (goal line to goal line) and 160 feet wide; it covers an area of 48,000 square feet.

mately 150 feet (50 meters) between unit vehicles and unit facilities as protection against hostile air attack. It is also considered as normal dispersion (consistent with control of the unit) under nuclear conditions. However, in the event of *imminent nuclear attack*, further dispersion, relocation, and/or other defensive actions will be taken in accordance with local directives and SOP's.

c. Facilities Considered. The facilities considered in determining operational area requirements for the various types of motor transport units include, as applicable to the particular type unit—

- (1) Command post.
- (2) Staff sections (battalion and higher).
- (3) Mess (except battalion headquarters).
- (4) Unit supply area.
- (5) POL storage area.
- (6) Basic load storage area.
- (7) Vehicle maintenance area.
- (8) Troop bivouac area (two-man tents).
- (9) Vehicle parking area (each vehicle hooked up to assigned trailer or semitrailer).

d. Other Considerations. In addition to the unit facilities considered, the following factors govern:

- (1) Units are at full strength and have all authorized supplies and equipment; command and supervisory units have all tentage authorized under "discretionary items" in appropriate TOE.
- (2) All assigned vehicles and personnel are in the area.
- (3) Only authorized TOE equipment is on hand and used.
- (4) No existing facilities (shops, billets, hardstands, etc.) are available or used.
- (5) Overhead cover is sufficient to deter direct hostile observation.

(6) In the average and maximum areas indicated for the truck and car companies, operating platoon personnel are bivouacked in their respective platoon vehicle areas, dispersed in the vicinity of their assigned vehicles.

(7) Only one 12-ton cargo semitrailer per assigned tractor is considered for the medium truck company, cargo. If two semitrailers are authorized for each tractor, the required area must be increased approximately as follows:

- (a) Minimum—27,000 square feet.
- (b) Average—280,000 square feet.
- (c) Maximum—1,700,000 square feet.

(8) The area to be used has a relatively level and firm surface with a minimum of obstructions such as boulders, tree stumps, and ravines or creek beds; provides easy entry and exit to vehicles; is not so densely wooded as to obstruct movement of vehicles; and has, or will permit the establishment of, a suitable internal roadnet.

(9) The average areas indicated for TOE 55-17, 55-18, 55-19, 55-28, and 55-67 units include a factor of approximately 135,000 square feet to allow for a normal amount of unusable area within the field site; an internal road net; and such additional facilities (latrine, garbage sump, vehicle oil change sump, etc.) as may be required. The maximum areas indicated for these same TOE units provide a factor of approximately 270,000 square feet for the same purposes.

e. Defense Considerations. The requirement to provide perimeter and/or internal security with unit personnel may seriously hamper performance of the unit mission. It may be necessary to request additional security support from adjacent units or other commands, to preclude deterioration of either the unit defense measures or unit mission capability.

CHAPTER 20

UNIT READINESS

20-1. General

The readiness of a unit to perform its assigned mission is affected by the status of its personnel and training and its logistical posture. The unit commander determines, based on his knowledge of these areas within his unit, whether his unit is operationally ready to perform in its primary role. AR 220-1 prescribes the criteria for determining the readiness condition of a unit, establishes the overall objectives of the unit readiness system, and provides instructions for preparing the unit readiness report.

20-2. Unit Readiness System Objective

The objective of the unit readiness system established by AR 220-1 is to identify the readiness status of units. Information and data derived from the system contribute to the effective management of available resources and thereby to the attainment of Army readiness. The Army seeks to insure that each unit has available for duty its authorized personnel with the required skills, that its authorized equipment is on hand and maintained in an operational condition, that its needed supplies are on hand, and that each unit is maintaining a state of training which will permit the accomplishment of the unit's mission as stated in its table of organization and equipment (TOE). Effectively used and supervised, the unit readiness reporting system will permit Headquarters, Department of the Army, to—

- a. Determine Armywide and commandwide readiness conditions and trends.
- b. Identify readiness problems which require resolution.
- c. Provide information to assist in making the best distribution of actual and programed resources.
- d. Provide information which supports requests for additional resources from the Secretary of Defense when required.

20-3. Unit Readiness Report

a. The unit readiness report consists of two parts—DA Form 2715 and 80-column, general purpose punchcards. The report provides a means for the commander to measure and report the current readiness of his unit. It also permits all commanders to identify problem areas (in personnel, training, and logistics) which may warrant command emphasis and/or corrective action to improve readiness. To insure a uniform report, full TOE is the basic standard for measuring personnel and equipment readiness condition (REDCON) for all units other than table of distribution and allowances (TDA) and *exception* units. Authorized levels are the standard of measurement for determining REDCON of TDA and *exception* units. Therefore, REDCON for TDA and *exception* units are related to a capability to perform peacetime missions.

b. Unit readiness reports must reflect the true condition of a unit. If the unit commander has complied with regulations and has wisely applied the resources at his disposal, and if his unit's REDCON is still below the authorized level of organization, no higher commander in the chain of command will consider this fact as reflecting unfavorably on the unit commander.

20-4. Unit Readiness Condition Levels

The unit commander determines the REDCON based on his knowledge of conditions within the unit. In order that REDCON may be measured uniformly, measurement factors in the areas of personnel, training, and logistics have been selected as readiness indicators. The general translations of the unit REDCON levels, expressed as C1, C2, C3, and C4, are as follows:

- a. **REDCON C1.** Fully ready. A REDCON C1 condition indicates that the unit is fully capable of performing the full TOE mission for which the unit is organized or designed.
- b. **REDCON C2.** Substantially ready. A REDCON C2 condition indicates that the unit is capa-

ble of performing the full TOE mission for which the unit is organized or designed, but has minor deficiencies which reduce the unit's ability to conduct sustained operations.

c. REDCON C3. Marginally ready. A REDCON C3 condition indicates that the unit has major deficiencies of such magnitude as to limit severely its capability to perform the full TOE mission for which the unit was organized or designed, but it is capable, nevertheless, of conducting limited operations for a limited period.

d. REDCON C4. Not ready. A REDCON C4 condition indicates that the unit is not capable of performing the mission for which it is organized or designed.

20-5. Unit Logistics Readiness (AR 11-14)

Within his capability, a unit commander is responsible for attaining and maintaining an acceptable level of unit logistic readiness within his unit. To attain this level, he must maintain a proper balance among operations, training, maintenance, and the other factors essential in maintaining the optimum readiness condition. He must make every effort to assure the prompt and substantial improvement in management techniques used to determine logistic needs, the identification and disposition of excesses, the condition of materiel, and the accuracy of records and reports. Actions to be taken by the unit commander in achieving logistic readiness include the following:

a. Establish controls to prevent the abuse of supply and maintenance priorities, and to enforce supply and maintenance discipline.

b. Promptly identify and advise the next higher headquarters of those logistic readiness conditions not correctable within available unit resources, or within the limits established by existing directives.

c. Assure timely and effective reporting and disposition of excess supplies, equipment, and/or facilities.

d. Institute measures to insure that only authorized and required supplies and equipment are on hand (or on requisition) and that on-hand supplies and equipment are properly accounted for, safeguarded, and maintained.

e. Schedule and provide sufficient man-hours for the performance of preventive maintenance services.

f. Enforce the accountability, care, and preservation of unserviceable, repairable end items, assemblies, and/or subassemblies and their prompt evacuation or repair and expeditious return to the supply system, or disposal, as appropriate.

g. Conduct inspections of equipment and materiel to maintain an awareness of the actual condition of the units' equipment.

h. Report the actual condition of equipment in readiness reports.

CHAPTER 21

ROUTE RECONNAISSANCE

21-1. General

To determine the condition and suitability of a road over which a one-time movement is to be made, as with a truck unit being displaced to a new location, it may be necessary to make a reconnaissance of the route. Or, route reconnaissance may be required to determine and select a suitable road or road net over which a unit may operate for an indefinite period, as with the establishment of a trailer transfer operation or other recurring logistic transport mission.

21-2. Types of Reconnaissance

The current situation, available time, personnel and equipment, and type and amount of information desired normally dictate the manner in which a route reconnaissance is accomplished.

a. Map Reconnaissance. This method provides for a reconnaissance to be made in the shortest possible time. It consists of a study of maps and aerial photographs along with other available intelligence and engineer data on which the selection of a route is made. Map reconnaissance provides general information such as location and general alignment of roads, general capability of roads to accommodate military traffic, location and size of towns and cities, and other similar characteristics which are limited to the detail contained on the maps and available from other sources. Maps used must be as up-to-date as possible; outdated maps can create serious problems.

b. Road Reconnaissance. This type of reconnaissance is an actual "on-the-ground" inspection of the route(s) under consideration by a reconnaissance party. It provides up-to-minute and specific information such as type and condition of road surface, width of roadways and shoulders, gradients, bridges, cuts, fills, bottleneck areas, and other pertinent data. It makes possible the collection of specific items of information not attainable from a map reconnaissance. The road reconnaissance requires considerably greater time to make than a map reconnaissance.

c. Air Reconnaissance. This method of reconnaissance generally provides for a visual examination of the road over which a move is to be made, a good look at the general terrain characteristics, and a chance to view the countryside adjacent to the road to be traveled. Unless time and circumstances permit aircraft landings, definite data concerning overhead clearances, bridge and culvert capacities and/or state of repair, and the types and condition of road surfaces cannot be obtained by air reconnaissance. If required to supplement the air reconnaissance, these data must be obtained from maps, aerial photos, intelligence reports, and other available sources. However, the ability to examine the countryside adjacent to the road offers the possibility of locating actual or possible ambush sites and affords the opportunity to take, or make plans for, defense and/or retaliatory measures.

21-3. Unit Vehicle Operator Data Collection

At company level, vehicle operators are a readily available source of information on roads and road nets over which they operate in their daily transport role. Data collected from drivers may be used to prepare and maintain an up-to-date file on the conditions of those roads over which the unit vehicles operate. This information may also be passed on to higher headquarters for their ready reference.

21-4. Reconnaissance Party

Appendix S provides additional guidance for route reconnaissance matters. It offers a suggested list of equipment with which the road reconnaissance party should be equipped, presents a guide for information to be provided the party concerning the making of the reconnaissance, and outlines specific data which may be required to be collected. Further information on route reconnaissance is contained in TM 55-310 and FM's and TM's of the 5-series.



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CHAPTER 22

COMMUNICATIONS

22-1. General

a. The establishment and maintenance of an effective communications system is of utmost importance to a unit in the efficient accomplishment of its mission. An adequate communications system permits proper command and control of unit elements, enables the unit to contact supported and supporting agencies and activities quickly, and provides a means of contacting elements of the unit that are operating away from the home station. An adequate communications system also facilitates control and direction of the unit by higher headquarters and permits transmission of vital tactical information—warning of chemical-biological-nuclear attack, radiological fallout, or guerrilla actions—which may affect the unit's operations.

b. The commander of each motor transport unit is responsible for the communications system within his command. He must consider the capability and use of not only organic communications equipment but also that provided by theater army and field army communications systems. In addition, he must consider every means of communications available to him to include messenger service.

22-2. Communications Support

Communications support as required for interconnection of transportation units throughout the communications zone is provided by the theater army area communications system. In the combat zone, throughout the corps rear area and the field army service area, such communications support is provided by the army area communications system. Installations such as highway regulation points and traffic control posts receive communications support from these systems or extensions of these systems, as required and authorized. These communications systems supplement the organic capabilities of the motor transport units to establish the communications networks required by motor transport units.

a. Signal units of the US Army Strategic Communications Command (theater) and the field army signal brigade install and operate the theater army and field army area communications systems. These systems consist of a network of signal centers spaced throughout the areas; high capacity trunking systems interconnect the centers. Each signal center may operate a telephone central, a teletypewriter central, and a communications center which transmit and receive messages for units in its area. Messenger service is normally provided between the various area signal centers; however, local messenger service to and from the area signal center must be provided by the unit concerned. The area signal center installs wire lines (telephone and teletypewriter) to units within its area, and also operates a radio wire integration station which interconnects frequency-modulated (FM) radios with the common user telephone system on a push-to-talk basis.

b. The distances between a transportation battalion headquarters and its companies normally exceed the organic wire laying capability and may exceed the range of organic radios. Therefore, the area communications system provides the only communications net available to motor transport units. Also, communication between a transportation unit and the agencies and activities it supports is provided through the area communications system. It is essential that each battalion headquarters and company be connected to an area signal center.

c. The signal units operating the area signal centers are equipped to install wire lines to all units within their areas of responsibility on a priority basis. Normally, the area of responsibility of an area signal center is specified by higher authority; units outside this radius will not be afforded wire service.

d. The number of telephone and/or teletypewriter circuits between an area signal center and a transportation battalion or company will normally be specified by the field army communications-electronics standing operating procedure and

will depend upon the unit's communications requirements. This number of circuits will be installed upon receipt by the area signal center of notification of the move of a unit into its area. When moves are planned, notification must be given to the appropriate signal center as far in advance of the move as possible to insure that communications requirements can be met at the new location.

e. The communications-electronics officer of each major command has, based on indicated requirements, availability of facilities, and priorities, the responsibility for allocating the type and extent of electrical communications within that command. Transportation unit communications policies and procedures must conform to those established by such higher headquarters.

22-3. Unit Communications Equipment

a. Communication means available to various transportation units include radio, telephone, radioteletypewriter, landline teletypewriter, messenger, visual, and sound. All of these means are not available to all units; for details on the types and quantities of major items of communications equipment authorized specific units, see table 22-1.

b. The radios authorized by table of organization and equipment (TOE) to transportation truck units are limited in both range and quantity. They are used primarily for internal communication purposes and provide for communication between the headquarters and elements of the unit, both in static operations and on-the-road operations. The company headquarters radio is also used to contact higher headquarters (battalion) and supported and supporting units through a radio wire integration facility. It can be employed in rear area protection (RAP) matters

through entry into and monitoring of the RAP net.

c. The authorized switchboards and telephones are used to establish internal wire communications systems. The switchboards also terminate wire circuits from the telephone switching centrals at area signal centers, thus establishing entry into the communications systems. This provides common user wire communications between motor transport units and higher headquarters, adjacent units, and supporting and supported units.

22-4. Communications Personnel

a. *Communication-Electronics Staff Officer.* The individual designated by the unit commander as the communication-electronics staff officer is responsible for directing and supervising all phases of the system and equipment and training of unit communications personnel. Adequate communications control, communication-electronics operation instructions (CEOI) and communication-electronics standing instructions (CESI) must be developed to take maximum advantage of alternate means of communications under all operating conditions. Specific duties of the communication-electronics officer include—

(1) Keeping the commander informed of all communications matters.

(2) Coordinating communications with higher, adjacent, supported, supporting, and subordinate units.

(3) Preparing communications plans.

(4) Assisting in the selection of the site for the unit command post.

(5) Supervising the installation, operation, and maintenance of the unit's communications system.

Table 22-1. Major Items of Communications Equipment, Motor Transport Units

Communications equipment, motor transport units (major items)	TOE authorization (55-series)										
	11	12	16	17	18	19	28	67	84	87	88
Radio set: AN/VRC-46	1						6	1			
Radio set: AN/VRC-46 (vehicle mounted)			1	4	4	4		3	4	4	4
Radio set: AN/VRC-47		1	1	1	1	1	2	1			
Radio set: AN/VRC-47 (vehicle mounted)		2	2	1	1	1	5	1	1	1	1
Switchboard, telephone, manual: SB-22/PT			1			1		1			
Switchboard, telephone, manual: SB-86/P	1	1									
Switchboard, telephone, manual: SB-993/GT				1	1		1		1	1	1
Telephone set: TA-1/PT								1			
Telephone set: TA-312/PT	28	13	11	6	6	6	6	5	7	7	7
Teletypewriter set: AN/GGC-3	1	1									
Teletypewriter set: AN/PGC-1	1	1	1								

(6) Determining communications equipment and supply requirements.

(7) Supervising or arranging for the training of communications personnel, to include the training of alternate operators.

(8) Preparing extracts of current CEOI and CESI for use by communications personnel.

(9) Maintaining liaison with the appropriate signal center supporting the area. FM 24-16 provides guidance to unit communication-electronics officers in preparing orders, records, and reports pertaining to communications.

(10) Preparing radio net and wire system diagrams based on organic communications equipment and its employment and based on nets outside the unit which the unit monitors or is part of. FM 24-18 and FM 24-20 provide information to assist the unit communication-electronics officer in field radio and field wire techniques.

b. Radio Operator. The radio operator is responsible for the proper use of the radio, to include the use of correct radio procedures and adherence to communications security measures. He must be familiar with the CEOI and CESI with respect to radio procedures, call signs, and security. He is responsible for performing operator maintenance on his radio equipment. He must know the capabilities and limitations of the radio and must be familiar with the other facilities incorporated into the radio net of which the unit is a part.

c. Switchboard Operator. The switchboard operator installs, operates, and maintains the unit switchboard. He must know the procedures and techniques for installation and operation of the field telephone equipment, the capabilities and limitations of the equipment, and the facilities incorporated into the system to which his switchboard is connected. At company and battalion level, he also serves as wireman. He installs and maintains the field wire communications system and performs organizational maintenance on the field wire communications equipment. During the initial installation of the wire net and depending on distance between unit elements, he may require the assistance of additional personnel.

22-5. Communications Equipment Supply

a. Authorized items of communications equipment are prescribed in TOE. Additional equipment may be authorized by higher commanders. Initial supply and replacement is made through normal

supply channels. The supply sergeant, with the assistance of the communication-electronics officer, prepares and submits requisitions for the equipment and supplies.

b. Allowance for stockage of repair parts is established by repair parts and special tool lists in the equipment technical manual. Quantities of repair parts authorized for operator maintenance are issued initially with the equipment and are authorized to be kept on hand by the operator.

22-6. Maintenance of Communications Equipment

a. Since most truck units are not authorized radio repairmen, the performance of maintenance services on radio equipment in motor transport units is generally limited to operator maintenance. Only the truck battalion headquarters and the heavy truck company are authorized radio repairmen who are capable of performing organizational maintenance on assigned radio equipment.

b. In motor transport units the general procedure for obtaining maintenance services beyond the capability of the radio operator is to turn the equipment in to the direct support unit for repair or direct exchange except that—

(1) In the heavy truck company, equipment requiring organizational maintenance is turned in to the unit radio repairman who repairs the equipment within the scope of organizational maintenance services. In the event the maintenance required is beyond his capability, the equipment is then turned in to the appropriate direct support unit for repair or exchange.

(2) Depending on established procedures, units attached to a truck battalion and having no assigned radio repairman may have organizational maintenance performed on their equipment by the battalion radio repairman. Maintenance services beyond his capability are obtained through turn-in of the equipment to the appropriate direct support units.

22-7. Communication-Electronics Operation Instructions, Communication-Electronics Standing Instructions

a. CEOI's are a type of combat order issued for the technical control and coordination of communication within a command. They include current and up-to-date information covering codes and ciphers, radio call signs and frequencies, tele-

phone directory, and visual and sound signals. The designated battalion staff officer prepares the battalion CEOI in conformance with the CEOI of higher headquarters. Truck units attached to the battalion headquarters use only extracts from the battalion CEOI. CEOI's may be classified; if so, copies of extracts must be safeguarded according to their security classification.

b. CESI's contain items of operational data not subject to frequent change, and instructions for the use of the CEOI. They are prepared by the designated battalion staff officer, who may issue them in a separate publication or consolidate them in the CEOI.

c. Communication procedures which may be standardized are made a part of the unit SOP. The SOP must not violate instructions disseminated in other types of official publications from higher headquarters.

22-8. Wire Communications

a. Wire communications, which can be used across most terrain and in most situations, include the use of field wires, wire laying and recovery equipment, battery operated telephones, switchboard, and associated equipment. Except for the transmission of involved messages, maps, or lengthy documents, wire communication is highly effective. It affords person-to-person conversation with break-in operation (capability of interrupting the conversation) and is generally more secure than radio communication. However, security is never assured when transmitting in the clear.

b. Using battery operated telephones, the maximum operating range of point to point field wire circuits is approximately 14—22 miles (22.5—35.5 kilometers). The range of wire communications varies, depending principally on weather and condition of the wire. Wet weather, poor splices, and damaged insulation reduce operating range appreciably.

c. Only a limited number of telephones are made available to a unit by its TOE, and it is important that the best possible use be made of them. Regardless of assignment of the telephones by the TOE, some phones may be used for purposes other than those for which they are intended. For instance, during the hours of darkness, it may be necessary to place all phones except those of the commanding officer and the dispatcher on the perimeter for use by outposts or gun positions.

d. Upon arrival in a new area, emphasis must be placed on immediate installation of phone lines. First priority should go to the commander's phone, followed by the dispatcher, then the operating and maintenance elements.

e. The time required for wire installation depends mainly on the length of the line and the method by which it is laid (vehicle or man pack). In estimating the time required to install a wire net, it is necessary to consider the terrain, routes, weather, enemy action, and visibility.

f. Switchboards are used to increase the flexibility of the wire system and to reduce the number of wire lines needed. All unit telephones are connected to the unit switchboard, which is tied in to the area signal center to provide telephonic communication with supported and supporting units, higher headquarters, and adjacent units.

g. Telephones provide a communication means that is quick and efficient and allows for discussion of subject matter. They should not be used for long reports or orders when another means can be used effectively. During critical periods the use of telephones may, except for emergency calls, be restricted to designated personnel. A typical company wire net is shown in figure 22-1.

22-9. Radio Communications

a. Although transportation units depend heavily on telephones, landline teletypewriters, and facilities of the area communications system for communications, these facilities are supplemented by comparatively short range, FM radio sets that are used either when other means are not available or to supplement common user communications facilities. Units may also be provided amplitude modulated radio teletypewriter (AM RATT) sets. The type and extent of radio facilities provided each unit depend on the communications requirements of the unit mission. For specific types and quantities of radio equipment authorized see the applicable TOE and table 22-1.

b. Companies are normally provided FM voice radio sets to supplement organic wire systems. These sets are used for control of road movements, for command and control of company elements operating away from the company area, and for communication with higher headquarters when distances permit. The radios are mounted in vehicles organic to the company, the principal company radio being mounted in the commander's vehicle. A sample company radio net is shown in figure 22-2.

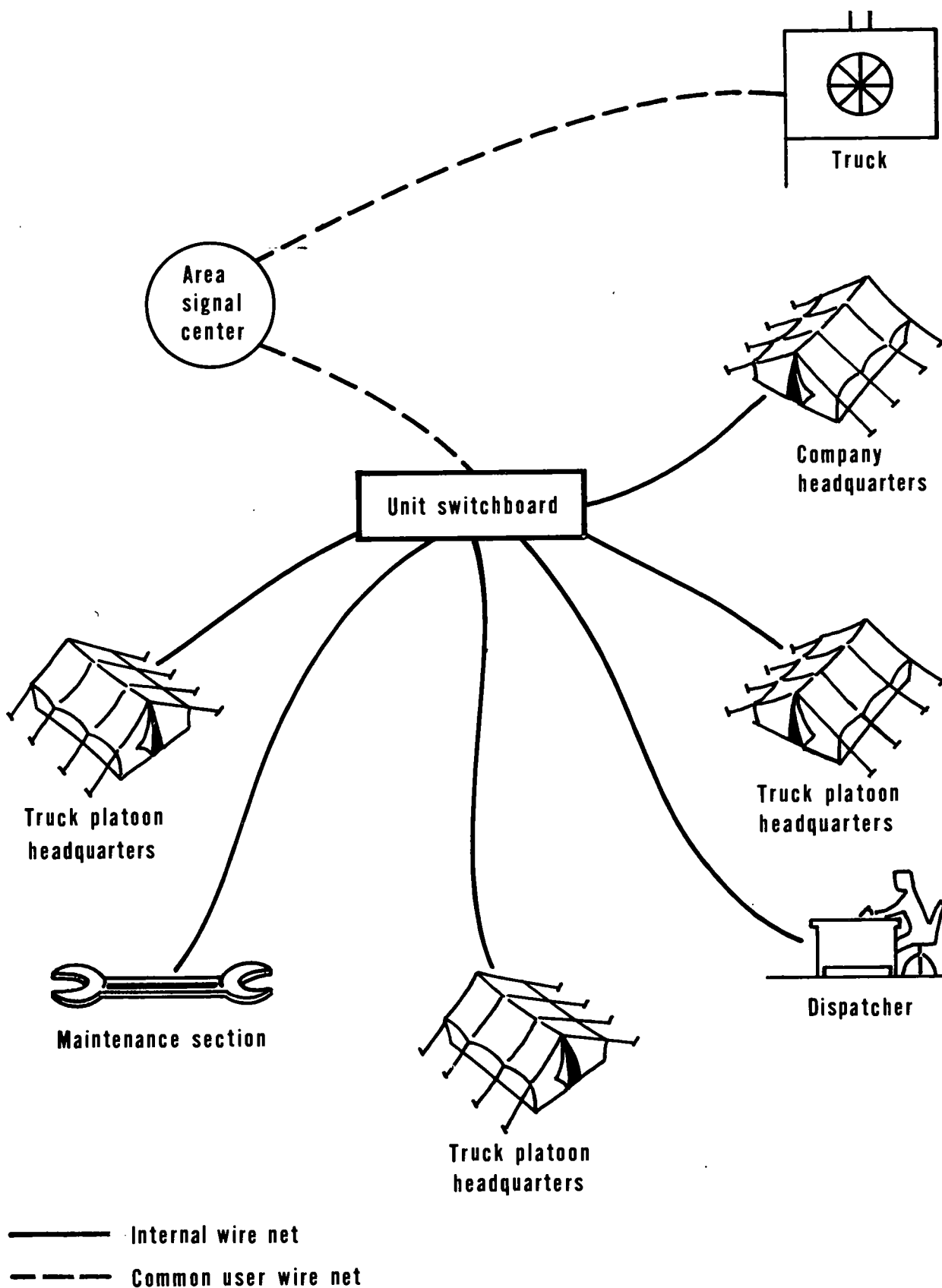


Figure 22-1. Typical telephone wire net, transportation truck company.

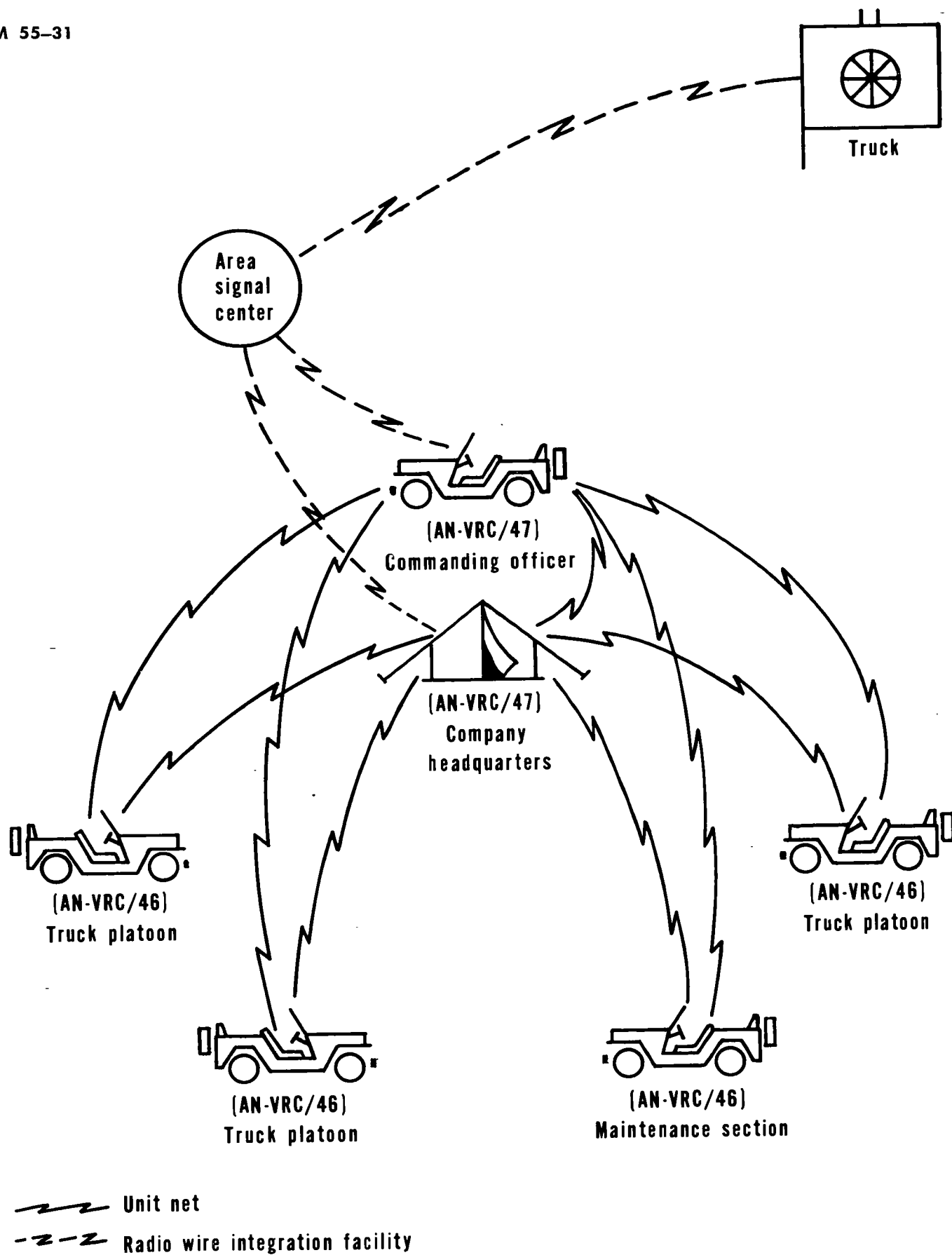


Figure 22-2. Typical radio net, transportation truck company.

c. Radio is particularly vulnerable to enemy electronic warfare (EW) activities since its radiated electromagnetic energy may be readily detected, intercepted, analyzed, and exploited. A further discussion of enemy EW is contained in paragraph 11-8. Since other factors, such as weather, terrain, dispersion, and crowded frequencies, adversely affect radio communications, landline telephone is normally the primary means of communications available to truck units.

22-10. Messengers

The use of messengers is available to all units. Messenger service is the most effective method of transmitting and delivering lengthy messages and bulky items. Unit personnel are used for message pickup from and delivery to the battalion headquarters or the nearest signal center. When practicable and depending on message content, the delivery of messages by messenger should be confirmed by other communications or a followup message. Although they provide a flexible and reliable service, messengers are vulnerable to enemy action and do not afford the person-to-person conversation provided by communication equipment.

22-11. Visual Communications

Available to all units are several distinct ways of communicating visually: flags, lights, pyrotechnics, panels, arm-and-hand signals, and other prearranged visual means. Transportation units are provided panel sets for communication with friendly aircraft to preclude attack during movement. These are also used as a guide to friendly aircraft conducting air-to-surface action in the vicinity of transportation units and to indicate drop or landing zones. The panel system and panel recognition code for communication with aircraft is normally spelled out in the unit CEOI. Colored smoke provides a ready means for both air and ground communications. For details on the use of panels and other visual signals, see FM 21-60.

22-12. Sound Communications

Sound is a supplementary means of communication. Sound signals are kept simple to prevent misunderstanding and are transmitted by whistles, horns, Klaxons, weapons fire, and other noise-making devices. They are used chiefly to attract attention, to transmit prearranged messages, and to spread alarms. Sound signals are vulnerable to interception, and their use may be

prohibited for security reasons. Such signals and their meanings are assigned by commanders. Warning of air, ground, and chemical, biological, or nuclear attacks is usually given by this means.

22-13. Communications Security (COMSEC)

a. COMSEC is that protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications or to mislead unauthorized persons in their interpretations of the results of such possession and study. COMSEC includes cryptosecurity, transmission security, emission security, and physical security of communications security materials and information. It is the unit commander's responsibility to insure that COMSEC measures are understood and observed by all unit personnel using communications equipment.

b. Motor transport unit personnel are concerned with all types of COMSEC as described above. However, the two measures of prime concern to transportation personnel are physical security and transmission security.

(1) Physical security is the component of COMSEC which results from all physical measures necessary to safeguard classified equipment, material, and documents from access or observation by unauthorized personnel. Prior to vacating a command post or other facility used for communications purposes, a thorough inspection should be made for copies of messages or carbons and copies of maps or orders that might prove beneficial to the enemy. Special attention must be given to CESI and CEOI items including their production, distribution, storage, and final disposition when superseded or no longer needed. When a CEOI item or an extract of a CEOI item is believed to be lost or otherwise compromised, the fact must be reported and the item replaced immediately. The unit commander must specify in the unit SOP precisely how the report is to be made. As a minimum, he normally requires security violations to be reported immediately through communications and command channels.

(2) Transmission security is that component of COMSEC which results from all measures designed to protect transmissions from interception and exploitation by means other than cryptanalysis. Radio is particularly susceptible to interception, direction finding, traffic analysis, and deception; thus, radio operators must be thoroughly trained in correct communications procedures

and be constantly alert so as not to divulge information to the enemy through faulty operating procedures and techniques. Personnel preparing messages for transmission, as well as radio operators, must be aware of the ability of the enemy to obtain information from radio traffic. For details on communications security see FM 32-5, and see AR 380-41 for cryptographic security. Appendix T offers operator guidelines for transmission security.

22-14. Communications Training

a. Normally, the communications specialists are trained either at service schools or at unit schools established within the command. When necessary, arrangements may be made through the communications-electronics officer of the command for the required training of these special-

ists. Concurrently, officers and other communications users may be given general training on radiotelephone procedures, telephone procedures, message writing, and communications security. It is the responsibility of the unit communications officer to assure that all members of the company engaged in communication-electronics have sufficient training to perform their jobs in an efficient and effective manner.

b. Units should be trained in installing, operating, and maintaining their communication systems in fast-moving situations, under all conditions of weather and visibility, and over all types of terrain.

c. COMSEC and electronic counter-countermeasures training should be included in all phases of communications training.

CHAPTER 23

MOTOR TRANSPORT OPERATIONS UNDER ADVERSE TERRAIN CONDITIONS

Section I. GENERAL

23-1. Terrain Characteristics

Among the most common barriers affecting motor movements are those imposed by terrain. These obstacles can usually be foreseen and prepared for through routine map study and reconnaissance since terrain characteristics that may cause serious delays are notable land features such as hills, swamps, unfordable streams, ditches, or canals. Steep grades, sharp curves, and narrow roadways characterize hilly terrain, with operational difficulty increasing in proportion to the size of the hills. In the majority of instances, operational adjustments required by terrain features will be limited to reducing speeds and restricting vehicle loads; water obstacles may necessitate the use of special equipment or alternate routes.

23-2. Planning and Operational Factors

Although standard military vehicles are designed and manufactured with characteristics to minimize the effects of difficult terrain, all planning and operating personnel must recognize and make necessary allowances for the degree of limitation and the tactical or logistic effects such terrain imposes. The greatest single factor in maintaining column mobility through difficult terrain is the training of the individual driver. During combat, the available road net will often present problems similar to those encountered in cross-country movement in the normal training situation. It is therefore vitally important that drivers receive training over a variety of terrain so that they may negotiate such obstacles with confidence, a sure technique, and minimum delay. See appendix U for hints for vehicle operations in difficult terrain.

Section II. HILLY OR MOUNTAINOUS TERRAIN

23-3. General

Plans for motor movements in hilly or mountainous regions must be based on a knowledge of current conditions of the area. The need for specific information regarding grades, road characteristics, and bridge capacities increases in proportion to the ruggedness of the terrain. Careful study of available maps and information from reconnaissance and intelligence agencies will indicate the type and maximum number of vehicles that can profitably be employed in any particular operation. In some cases, engineer assistance may be required for reinforcement of bridges and culverts and for essential maintenance of road surfaces during any continued movement. Due to grades or other road conditions, normal loads may have to be drastically reduced to keep traffic moving at a reasonable rate, and many of the heavier vehicles

with little offroad capability may be found useless under severe adverse conditions. Proper analysis of the transport situation and the selection of appropriate vehicles, coupled with operation by adequately trained drivers, are essential to successful motor movement under such conditions.

23-4. Maintenance

Maintenance, particularly driver maintenance, is of major importance in motor movements over mountainous terrain. Prior to and during operation in the mountains, the safety devices of all vehicles must be thoroughly checked and on-the-spot adjustments made to insure proper operation. Mechanical failures which might be considered of minor importance in other situations may be the cause of serious accidents on steep grades

and sharp curves. Proper inspection of the brake linkage and proper adjustment of brakes is extremely important. The emergency brake must be capable of holding the vehicle on any slope without the aid of gears or foot brakes. Since the braking power of the engine is normally used to assist in holding down speed when descending steep slopes, it is important that the transmission is properly maintained and is in good operating condition so that the danger of failure is minimized.

23-5. Operational Precautions and Techniques

Although steep grades are prevalent in mountainous terrain, the proper selection of vehicles for an operation will enable continued movement without resort to winching except in isolated instances where abnormal conditions prevail in limited areas. Drivers must be extremely careful at all times because of sharp, blind curves and dangerous grades. All curves must be taken at a speed which will enable the driver to stop the vehicle in half the road space visible to him. Either uphill or downhill grades should be taken in a gear ratio that will enable the vehicle to take the entire hill without shifting. When coming into a

steep grade, the driver may, in the case of a short grade, build up momentum on the approach so that this added momentum will carry him over, or he may drop into a lower gear to allow for a long, steady pull with maximum traction. Caution must be exercised to see that the speed of the vehicle does not exceed the speed (listed on the chart in the cab of the vehicle) for that particular gear ratio. Hills should be descended with a combination of braking and engine power—neither should be used alone to bring a vehicle downhill. During daylight in tactical operations, all vehicles will normally be in open column and care must be taken to guard against bunching on the approaches to grades and curves since the slow movement of columns in mountainous areas makes them extremely vulnerable to enemy attack. Because the danger of blackout driving in mountains will often exceed the danger of enemy action, driving without lights on narrow, winding mountainous roads should be held to a minimum. When blackout driving is necessary it should be limited to those stretches of road subject to enemy observation. At these points, signs and guides should be posted to give special instructions to each driver as he approaches. Trucks should be in close column for blackout operations.

Section III. SWAMPY GROUND AND WATER OBSTACLES

23-6. General

Evidence of ground water (that is, the presence of springs, pools, or characteristic plant growth) along a planned cross-country route invariably presents a problem in the movement of wheeled vehicles. Although swampy ground and water obstacles are generally associated with valleys or lowlands, sidehill bogs and ridgeline swamps may appear locally where geological faults allow ground water to emerge. For planning and operational purposes, these barriers may be considered to be all-seasonal, although seasonal conditions will affect them as the water table is raised by rainfall or melting snow and ice or lowered in times of drought. Timely estimation of the size and characteristics of obstacles through map study, reconnaissance, and intelligence will aid in determining the amount and type of additional equipment necessary to effect the passage of a column, the probable delays and adjustments in the schedule to avoid congestion, and the advisability of using an alternate route to bypass the obstacle.

23-7. Mud and Swamps

Swamps, bogs, and mud caused by the proximity of the water table to the surface should be avoided by all traffic if possible. Although the surface crust may appear comparatively dry and well covered with vegetation, any breakthrough may result in the vehicle becoming hopelessly mired. The depth of soft mud below the surface is extremely difficult to determine and may vary in the same swamp from between 1 to 2 feet to pits that cannot be sounded. When it becomes necessary to cross such barriers, provision should be made to bridge the surface by suitable reinforcement with mats, brush, or special flotation materials. By increasing flotation in this way and by avoiding concentrated loads, traffic may cross otherwise impassable barriers without undue loss or delay. Drivers should be cautioned against parking vehicles, or even stopping, on swampy ground. In the event that support of a tactical operation requires the movement of personnel, equipment, and supplies over large areas of marsh or swampland, suitable reinforcement by

engineer troops and equipment must be available, and selection of vehicles with maximum flotation must be made.

23-8. Ditches and Streams

Drainage ditches and canals, gullies and ravines, and streams and rivers present obstacles to motor movement in proportion to their size and the susceptibility of the operation to enemy action. Map study, reconnaissance, and intelligence reports may supply all information necessary to planning personnel. Where reasonable doubt exists regarding either the feasibility of crossing or the extent of requirements for additional personnel and equipment, engineer reconnaissance should be requested. Small ditches, gullies, and streams will not cause serious delays although approach and passage at reduced speeds require traffic control

to avoid congestion. Canals, ravines, and rivers present serious obstacles to motor movement and require definite means for crossing. Existing bridges and fords offer remunerative targets to enemy artillery and bombing, as well as to sabotage and guerrilla activities. No movement should therefore be made without provision for changes in plans demanded by current intelligence. Techniques of crossing, capabilities of vehicles, and requirements for the construction of temporary bridges or crossing expedients are covered in appropriate field and technical manuals. In general, the existence of canals, ravines, and rivers across a route selected requires additional preparation on the part of planning personnel to avoid congestion in critical areas, to provide for repair or construction at crossing sites, and to furnish adequate instructions to operating personnel to insure proper conduct of the operation.



CHAPTER 24

MOTOR TRANSPORT OPERATIONS UNDER ADVERSE CLIMATIC CONDITIONS

Section I. GENERAL

24-1. Climatic Conditions

The effect of climate on motor movement is a factor that must be carefully considered in every phase of movement planning. Specific information for a given area as to absolute extremes, means, and frequencies of departures from these means; temperature; wind direction and velocity; precipitation; and other weather elements is generally available in standard references. Analysis of this information indicates the suitability of certain types of vehicles for motor movement during any specific season, the type and probability of hazardous conditions, the necessity for special training, and the need for supplementary troops and/or equipment.

24-2. Common Planning Factors

The factors of climate—temperature, humidity, precipitation, wind velocity, and degree of light—are important in the planning and conduct of military motor movements since they have a direct effect on terrain, troops, vehicles, and equipment. The systematic consideration of these factors, with their seasonal variations, in conjunction with information on terrain, state of training of troops, and availability of suitable vehicles and equipment is necessary to the planning of a successful movement under adverse climatic conditions. In general, military motor movements planners and operators are concerned with any combinations of these factors causing desert, jungle, and snow and ice conditions. (See appendix V for hints on vehicle operations in adverse weather.)

Section II. DESERT OPERATIONS

24-3. General

Desert environments occupy approximately one-fifth of the total land area of the earth, and the climate and terrain existing therein justify careful examination of the limitations imposed on military movement and the possibility of improving capabilities through training of personnel and modification of equipment. Although broad generalities must be avoided in the description of desert environments since wide variations occur with transitional desert forms in the same general areas, there are some characteristics common to most. For example, most deserts have a basic low rainfall creating a scarcity or total lack of water; extensive barren areas of gravel or sand; a high sunshine percentage, exceeding 70 percent; extreme daily temperature ranges, with low relative humidity during the day; strong seasonal winds, with periodic sand and dust storms;

and a relative lack of vegetation except for scattered scrubby bushes with small leaves and thorns. Desert landforms are variable. Not only do they include sand dunes but also rocky hills and steep escarpments, broad level valleys covered with gravel or stones, areas of clay that may become impassable in rainy periods, or gullies and dry stream beds that can suddenly become raging torrents. Desert conditions produce reduced efficiency of personnel, increased problems of maintenance of equipment, reduced mobility, and tactical insecurity due to lack of cover and concealment.

24-4. Operational Precautions and Techniques

Successful motor movement in deserts requires additional training and conditioning of personnel, specific adaptation of vehicles, and modification of maintenance procedures. Since combinations of

terrain and climate vary greatly among the world's deserts, general operational precautions and techniques must naturally undergo some modification to be applicable to any specific area. The following may be used as a guide:

a. Desert Driving. Due to the general absence of established roads in desert areas, desert driving calls for experience, individual skill, and physical endurance on the part of the vehicle operator. Driver training should include as much offroad operation under a variety of conditions as is possible. This training should include orientation on landforms, soil, and climate through the use of photographs, films, and discussions. In most desert areas, sand is a common obstacle. Driving in sand requires judgment in the selection of proper gear ratios, determination of suitable speeds, and choice of the best ground. The driver must recognize the limitations of his equipment, particularly the tendency of wheeled vehicles to dig in when forward momentum is lost, and he must be able to employ proper expedients immediately. Provision should be made for additional equipment on the vehicle(s) or within a column to facilitate the rapid recovery of a stuck vehicle(s). Unit standing operating procedures (SOP's) should be modified for desert operations to include procedures necessary to keep the column moving without unnecessary congestion around a disabled or immobilized vehicle. Driving in other desert landforms requires the application of a variety of driving principles demanding sound judgment and experience on the part of both vehicle operators and command personnel. Since no simple formula or means of testing to determine soil trafficability has been developed to date, each new situation must be evaluated in the light of local experience and necessary decisions made on the basis of calculated risk.

b. Desert Maintenance. Vehicular maintenance presents a major problem in all desert operations. Under the best conditions, the movement of vehicles over desert terrain creates a great volume of dust. This dust alone necessitates constant organizational maintenance to prevent abnormal wear and inoperable vehicles. Drivers must be particularly careful to check and clean air filters daily or more often as required under extremely dusty conditions, to check the oil filters, and to inspect constant-velocity universal joints. Vehicle instruments should be sealed (tape or sealing compound) to keep out dust. Care must be taken when servicing vehicles to insure that

no sand is allowed to get into gas tanks and crankcases. However, with the best maintenance possible in desert operations, wear will be greater than that under normal operations and provision must be made for greater quantities of repair parts carried in lower maintenance categories. Excessive heat is another cause of increased maintenance. Overheating of vehicles, through long periods of operation in low gear and the rapid evaporation of coolants, requires the provision of additional rest periods to allow vehicles to be stopped and faced into the wind to cool before damage is done to motors. Fan belts should be inspected frequently and immediately replaced when wear is excessive. Radiators should also be frequently inspected to insure free circulation of air and coolant. Batteries should be carefully inspected daily to maintain the proper level of the electrolyte. The combination of heat, sand, and rough ground found in desert areas shortens the life of tires. To get maximum mileage, the driver should increase or decrease tire pressures to meet varying conditions only within specific limitations. Proper tire pressures will insure against rim slippage and broken fabric. Drivers of dual-wheeled vehicles should also frequently inspect for stones wedged between the tires and remove them before damage is done to the sidewalls.

c. March Techniques. Motor movement operational techniques must be somewhat modified for desert operations. Since the desert usually has no well defined roads or trails, normal methods of assigning routes, direction by signs and guides, and movement control are not applicable. Movement from place to place is usually made by maintaining direction through the use of navigational methods and equipment. In conducting desert movements, care must be taken to maintain sufficient dispersion to prevent presenting favorable targets to the enemy. Deserts generally offer little or no natural concealment from aerial observation, though unevenness in terrain may provide sufficient cover and concealment from direct ground observation. Camouflage nets and shadows in broken ground areas must be exploited to give some measure of security.

24-5. Planning Considerations for Movement, Supply, and Evacuation

Movement planning for desert operations involves consideration of the influence of climate and terrain on the performance of the transport function. Planning personnel at all levels must be familiar with the capabilities and limitations of

movement means, to include both personnel and equipment, in order to meet desert requirements effectively. Suitable modifications in organization, training, and equipment should be initiated as early as the situation will permit. The selection of vehicles most suitable for the local climate and terrain will insure maximum mobility and will minimize the logistic complications imposed by excessive supply and evacuation requirements by the transportation itself. Selection and/or training of operational personnel to exploit available transportation effectively in desert operations is a major factor in planning since the physical and psychological influences of climate and terrain reduce efficiency of personnel, while at the same time operational and maintenance demands are at peak levels. Selection should include only those best qualified physically and mentally to endure hardship. Training should stress leadership, physical conditioning, operation of vehicles in desert environments, and principles of land naviga-

tion. Motor movement in desert areas is further complicated by the need for modification of normal routing, scheduling, and control procedures due mainly to terrain and the tactical situation. The need for increased dispersion to achieve some degree of tactical security increases the time length of convoys. Furthermore, the experience with time and space schedules developed in other terrain has little meaning, although in some areas lateral dispersion may be effective in reducing time length. Routing must be general rather than specific since point-to-point distances may be materially increased by local nontraffability. Column control will normally be exercised from within the column by radio or visual signals. Supply and evacuation movements in the desert normally involve greater distances because of the dispersion of installations and greater volume because of the increase in casualties to personnel and damage to equipment.

Section III. JUNGLE/FOREST OPERATIONS

24-6. General

Any combination of climatic factors favorable to the growth of vegetation will cause jungle conditions to some degree. These conditions, as they affect military motor movement, may vary from the heavily forested areas of the North Temperate Zone to the impenetrable equatorial rain forests. Heavy annual rainfall, high relative humidity, and adequate soil fertility are characteristic of all such areas. In temperate zones where the growing season is limited, the forests are characterized by the dominance of large trees with the lack of tangled undergrowth becoming more noticeable as the growing season is shortened. While these northern forests definitely restrict cross-country motor operations and are usually limited as to road net, they afford many advantages to military operations due to the concealment offered by overhead cover. Equatorial rain forests, on the other hand, present a definite obstacle to all military operations. All mobility, even for foot troops, is limited by a tangle of dense undergrowth which often must be cleared to allow any passage. Roads, if present at all, must be constantly maintained and are usually limited to unimproved trails. Military motor movements in all heavily forested areas are particularly susceptible to enemy ambush and delay.

24-7. Operational Considerations

Motor movements in areas of heavy vegetation

depend on the successful analysis and meeting of conditions imposed by climate and terrain. Consideration of climatic factors must include the type of vegetation in the area and its effects on movement, the effect of climate on maintenance and human efficiency, and the tactical effect of these conditions.

a. The type of vegetation in the locality will affect movement of vehicles in direct proportion to the density of the vegetation. Although roads and trails may be adequate for the movements planned, some offroad movement may be necessitated by enemy denial actions; therefore, the movement organization should include personnel and equipment necessary to insure continued movement by providing emergency bypasses, making highway repairs, or reducing roadblocks. Continued use of routes through these areas may require engineer road maintenance patrols to keep them open for wheeled traffic. Tracked vehicles, except in equatorial rain forests, have sufficient offroad mobility to bypass damaged sections of road without assistance. However, these vehicles are limited in speed and cargo capacity as compared with wheeled vehicles and are also less economical to operate.

b. The task of motor maintenance is increased in these operations due to the additional strains of operation on unimproved roads, the long periods of operation in lower gears, and the rust and corrosion caused by high humidity. While

human efficiency is not lowered in temperate zones, it drops sharply in tropical areas of high humidity and efficient maintenance becomes doubly difficult.

c. The techniques of march control must be modified for operations in jungle or heavily forested areas. To facilitate control, to improve security measures, and as an aid to rapid movement, march units should normally move as compactly as possible. Close column formations permit easier following of trails; however, in tactical situations such formations increase the danger of ambush. Open columns and infiltration moves lessen the danger of a general ambush but increase the possibility of a small element or single vehicle being separated and ambushed. The type of formation selected should be based on a careful evaluation of existing conditions. Prescribed distances should be maintained at the cost of reduced speed. Close liaison between elements of the march should be maintained at all times. Complete dependence on radio communication should be avoided since normal operating ranges are seriously reduced by dense vegetation and adverse operating conditions. Alternate means of communication should be provided in movement orders or appropriate standing operating procedures (SOP's). Reconnaissance must be provided both in advance of and during the movement to insure adequate information on the selected route, provision of alternate routes, and timely

warning of possible enemy interference. Reconnaissance units operating in these areas must be particularly well trained and alert since the presence of enemy forces will not be obvious in a majority of the cases. March discipline must be maintained at all times and adequate security must be provided at halts. Aerial observation of ground movement is seriously restricted by overhead cover and, by careful use of this overhead screen, large groups of vehicles may move or bivouac without danger of detection or attack from the air.

24-8. Planning Considerations for Movement, Supply, and Evacuation

The planning of movements in jungle or heavily forested areas calls for the early consideration of climate and terrain. The necessity for additional troops and equipment must be anticipated to give timely support to movements. The fact must be constantly kept in mind that, while distances involved may seem comparatively short, road speeds will normally be greatly reduced and allowances must be made for route construction and maintenance. Supply and evacuation in jungle operations should be closely coordinated to give maximum use to available transportation and to reduce traffic to a minimum. Tropical conditions will require additional protection for supplies against the effects of rain, high humidity, and heat from tropical sunshine.

Section IV. OPERATIONS IN SNOW, ICE, AND EXTREME COLD

24-9. General

Operations conducted in snow, ice, and extreme cold may be divided into two general categories: arctic and subarctic operations, and winter operations in the North Temperate Zone.

a. Operations in the arctic and subarctic mainly involve the effects of low mean annual temperatures. Although minimum temperatures recorded in this area are not necessarily lower than minimums recorded in some areas of the North Temperate Zone, the fact that subzero temperatures are constant during the winter months and continue for a longer period makes this area unique. The advent of long-range aircraft has given the arctic regions strategic importance and has consequently stimulated research and experimentation in the field of arctic operations. Special equipment and techniques have been developed and tested to meet arctic conditions. Current doc-

trine on all phases of operations under these conditions is covered in detail in FM's 31-70, 31-71, and 31-72.

b. The second category, winter operations in the North Temperate Zone, directly affects the movement of most land armies. The North Temperate Zone includes a large portion of the civilized world and consequently those lands most affected by armed conflict. A knowledge of expected winter conditions and their influence on military operations is essential to the success of winter campaigns. In the North Temperate Zone, snow, ice, and extreme cold may restrict some movements while favoring others. Motor movement on highways is definitely restricted by heavy snowfalls or ice, and in many cases special equipment is necessary to make any movement possible. In all cases, highway speeds will be reduced. Cross-country movement, on the other

hand, may be facilitated by the presence of deep frost in otherwise nontrafficable soils.

24-10. Operational Precautions and Techniques

Winter operations in the North Temperate Zone involve movement of personnel, equipment, and supplies by motor transport where snowfalls of over 2 feet are common, where sleet storms can glaze highways with clear ice in a matter of hours, and where temperatures to -40° F may be encountered. All of these conditions demand operational modification, both organizational and individual. Motor columns must travel at reduced speeds and must be prepared to encounter sudden changes in highway trafficability. Gaps between vehicles should be greater than normal and drivers should be instructed to maintain prescribed gaps, since stopping distances are greatly increased. Accidents caused by road conditions may be common until drivers gain experience, although the provision of emergency vehicles within the column will minimize delays. Personnel and equipment for snow removal or sanding will seldom be available except on regularly traveled routes. Therefore, all drivers must be instructed to use extreme caution at all times, to put on chains when in doubt, and to test the traction of their vehicles occasionally while on the march. Temperature affects traction more than any other weather element. Traction for wheeled vehicles on snow and ice without the use of chains is improved by subzero temperatures, although the presence of a light dusting of snow over glazed ice is extremely treacherous. In cases where moisture is present on the tires, chains should be used. Until better classification methods evolve to indicate snow trafficability, the judgment and experience of the drivers must suffice. Techniques of smooth, gradual acceleration and deceleration must be mastered by the individual—sudden starts and stops will result in complete loss of traction. Further discussion of winter driving techniques can be found in TM 21-305. (See appendix V for hints for vehicle operations in adverse weather.)

24-11. Maintenance

a. Motor maintenance at all levels becomes increasingly important and more difficult during the winter in cold climates. Automotive equipment must be maintained in top mechanical condition to run efficiently in subzero weather, and the conditions under which this maintenance

must be performed are normally unfavorable. Seasonable preparation for cold weather is the most effective means of preventive maintenance. All vehicles should be thoroughly inspected and winterized before freezing temperatures are to be expected. Winterization includes the following:

(1) *Lubrication.* Lubricate vehicles thoroughly, using the proper oil and grease for the expected temperatures as indicated in lubrication orders.

(2) *Ignition.* Clean spark plugs and adjust gaps. Check coil, generator, starter, voltage regulator, and distributor.

(3) *Battery.* Test cells, clean terminals, and tighten cables and clamps. Battery efficiency drops in extreme cold at the time that the heaviest output loads are required of it.

(4) *Cooling system.* Carefully inspect the cooling system for leaks, tightening connections and replacing worn hose. Check water pump, thermostat, and fan belt for proper operation. Drain and thoroughly flush system and refill with the indicated solution of antifreeze.

(5) *Fuel system.* Check for fuel leaks and replace parts if necessary. Adjust carburetor for cold weather operation. Check intakes and manifold gaskets. When extreme cold is expected, drain fuel tank sump to remove any water that may have accumulated and refill it, adding 1 pint of grade III denatured alcohol to every 10 gallons of gas to prevent freezing of fuel lines.

(6) *Brakes.* Check brake adjustment, fluid, lining, and connections.

(7) *Exhaust.* Check exhaust system for leaks. Carbon monoxide from a leaky exhaust system is deadly in a closed cab.

(8) *Vision.* Check lights, windshield wipers, mirrors, and defrosters.

(9) *Tire chains.* Make sure that tire chains are present, are the proper size, and are in good repair.

b. Driver duties and responsibilities in preventive maintenance are increased during cold weather operation. Each driver must be impressed with the fact that his comfort, safety, and perhaps his life, depend on the proper performance of his duties. In addition to the normal before-, during-, and after-operation preventive maintenance, the driver must be careful to warm up his engine gradually before putting a load on it. He must be sure that the winterization of his vehicle is adequate and that it stays that way.

And he must know and apply the measures necessary to give him adequate vision in all kinds of winter weather. He must also be able to recognize the early symptoms of ignition failure or battery failure and take appropriate corrective action.

c. Command supervision of maintenance activities in all categories is particularly important when heated facilities are inadequate or not available, since only those items considered most important will receive attention from men whose discomfort is their major concern.

24-12. Planning Factors

The successful planning and conduct of winter motor movements in the North Temperate Zone is based on thorough familiarity with local weather over a period of years, if such data are available, combined with a knowledge of the terrain. Movement plans will take into account maximum severity of weather for the season and be flexible to allow for sudden changes in weather which may often adversely affect motor transport. A rise in temperature accompanied by a warm rain such as one often experiences in the middle of an otherwise cold winter will turn trafficable snow into mud and slush. Temperatures, while above freezing, will cause great discomfort to personnel and will also necessitate a greater burden of maintenance.

Midwinter thaws are followed just as suddenly by subzero temperatures, causing the freezing of deep ruts and dangerous ice. The accumulation of frozen slush on running gear and the undercarriage of a vehicle may cause failure of components or may become of such a size as to bind moving parts and/or wheels and lead to accidents. Advance planning and preparation must include complete winterization of vehicles to meet the most severe weather, instruction of operating personnel in winter hygiene and first aid, issue of suitable cold weather clothing and equipment, and requisition of engineer personnel and equipment as indicated to expedite movement. Route and area reconnaissance should produce data on trafficability under varying conditions upon which route selection may be based. Provision for alternate routes should be made to exploit changes in trafficability due to weather. In spite of reduced speeds, column formations will normally be open due to the gaps required to allow for increased stopping distances. During periods of low visibility, columns will close up to maintain control. Frequent halts should be scheduled to allow drivers to rest and to allow personnel to move about to improve their circulation. Deep snows make every road, in effect, a defile. Provision of adequate column security when subject to enemy action must reflect this condition.

CHAPTER 25

UNIT SUPPLY OPERATIONS

25-1. General

The unit supply section provides supply and equipment support to the other elements of that unit. These supplies and equipment include organization (table of organization and equipment (TOE)) property, station (or installed) property, and organizational clothing and equipment. Chapter 2, AR 710-2, is the detailed basic reference on unit supply procedures; it covers the following areas:

- a. Accountability and property book accounting.
- b. Supply responsibility.
- c. Supply authorization documents.
- d. Request and turn-in of supplies and equipment.
- e. Individual/organizational clothing and equipment procedures.
- f. Repair parts procedures.
- g. Supply channels.
- h. Pecuniary liability.

25-2. Categories of Supplies

The various types of supplies and property may be placed in one of two categories: expendable or nonexpendable.

a. *Expendable Items.* These are items that may be consumed in use (ammunition, paint, fuel, cleaning and preserving items, and office supplies) or lose their identity in use (spare parts), and may be dropped from stock record accounts when they are issued or used.

b. *Nonexpendable Items.* These are items which are not consumed in use (weapons, vehicles, tools, and equipment) and which retain their original identity during their period of use. When issued for use they are normally retained on property book accounts.

25-3. Accountability

a. In nondivisional motor transport units, the property book officer is an individual designated on unit orders to maintain accountability for property on a property book(s). This accountability is an obligation imposed by law or lawful order or regulation on an officer or other person for keeping an accurate record of property or funds. In maintaining accountability the property book officer may or may not have actual possession of the property. As property book officer his accountability is concerned primarily with records, however he has direct responsibility for property in his physical possession and in this respect is concerned with its custody, care, and safekeeping.

b. Divisional motor transport units operate under a somewhat different property accountability system:

(1) Under an automated supply system (current division logistics system (DLOGS) and combat service support system (CS₃) concepts) there is only one property book officer in the division—the division property book officer. He makes issue of property to unit commanders on hand receipt; they may, in turn, make issues to individuals on hand receipt.

(2) Under a manual supply system property book accountability is maintained at battalion level; the battalion property book officer makes issues to units and individuals on hand receipt.

c. Property book accounting is an established system used by a property book officer to maintain records of certain classes of expendable (reportable) items and nonexpendable property. He employs two basic records to maintain this accountability of property: the installation property book and the organizational property book. He records installation property (beds, pillows, sheets, desks, etc.) in the installation property book, and organizational property (weapons, radios, etc., from section III of applicable TOE) in the organization property book. To record his

supply transaction, he uses a document register and files prescribed by chapter 2, AR 710-2.

25-4. Supply Responsibility

a. *General.* The property book officer will, in most instances, make a further issue of property to units and/or individuals for their use, using DA Form 2062, Hand Receipt/Annex No. The recipient accepts responsibility only, with property accountability remaining with the property book officer making the issue. Responsibility is vested in all military personnel who have Government property in their possession or under their control. This responsibility may be either command or direct.

b. *Command Responsibility.* Supply accounting and proper administration of property and supplies are functions of command; a commander has an inherent command responsibility to insure that the property of his command is properly safeguarded, accounted for, and administered. It is essential, for both supply and operational purposes, that a commanding officer be assured that the required and authorized property is on hand or on request, that it is in serviceable condition, and that it is properly maintained and used. There should be no accumulation of property in excess of authorized levels of allowances. Commanding officers are not exempt from pecuniary liability (para 25-10) resulting from loss, damage, or destruction of Government property entrusted to their care.

c. *Direct Responsibility.* As differentiated from command responsibility, direct responsibility applies to any individual to whom public property has been entrusted. An individual with direct responsibility for military property is charged with the care and safeguarding of that property whether it be in his personal possession, in use, or in storage. The signature of an individual on a hand receipt for property is *prima facie* evidence that the individual has accepted responsibility for the care and safekeeping of such property as is listed on that hand receipt. The assignment to duty, such as command of a unit in which responsibility for property is inherent, is also *prima facie* evidence that the individual so assigned is charged with responsibility for the care and safekeeping of the military property of that unit.

25-5. Supply Requirement/Authorization Documents and References

Various supply authorization documents prescribe the equipment, supplies (expendable and

nonexpendable), personal clothing, and repair parts that are authorized to be maintained in a unit. The supply requirement/authorization documents and references pertinent to motor transport units are as follows:

a. TOE are requirement documents which prescribe the normal mission, organizational structure, personnel strengths and specialties, and basic items of equipment authorized for each motor transport unit.

b. Modified tables of organization and equipment (MTOE) are authorization documents prepared in the field to change published TOE to provide certain additional and/or special allowances of personnel and/or equipment to meet the operating needs of a specific geographic or operational environment (AR 310-49).

c. Common-type tables of allowances (CTA) are authorization documents which provide the unit with recommended allowances of common items of equipment which are required worldwide. The applicable CTA for each unit are cited in section I of the TOE pertaining to that specific unit.

d. Supply catalogs are references which provide specific information such as nomenclature and stock number for accurate requisition of desired supply items (as against the general information on items of supply as provided by TOE and CTA). Technical bulletins and supply bulletins are references which further assist the supply officer in obtaining the necessary supply data on various items.

e. Technical manuals (TM) are references which are prepared for items of equipment requiring maintenance. A TM ending with a "-20" numerical designation identifies the manual as an organizational maintenance level manual. Lists of repair parts and special tools may be included in the same manual with the maintenance procedures, or they may be published as a separate manual with the same TM number but with a "P" added to the end of the numerical designation. The TM repair parts and special tool lists provide organization supply personnel with such information as item description and repair parts allowances for the computation of a unit's prescribed load list (PLL).

25-6. Request and Turn-In of General Supplies

a. Individuals and elements of motor transport units make their need for general supplies (other than repair parts) known to their unit supply

element. These requests may be made orally, by informal note, on a formal request, or by any other means available and/or acceptable. The unit property book officer consolidates all requests, prepares the request for issue documents (DA Form 2765 for expendable items and DA Form 2765-1 for nonexpendable items) and forwards the documents to the appropriate supply support activity, or if required, to battalion or higher echelons for further consolidation and submission. Expendable supplies may also be obtained for the unit by other methods as follows:

(1) By summary accounting for low dollar turnover items (SALTI), a procedure where low dollar turnover items are issued by supply support activities directly to using units without the requirement of formal requesting procedures. A request form, prescribed by the installation commander, is taken direct to the SALTI issue point for the item. Supply support activities determine which items are to be issued by this method.

(2) By a self-service supply center system in which an established supply center provides all tenant units and activities with a list of items in stock; these units, authorized a prescribed monetary allowance to acquire such items, make purchase of any required item(s). In this system, units must keep expenditures within their prescribed monetary allowance.

(3) By direct exchange, where the unit prepares an Exchange Tag (DA Form 2402) and hand-carries it, along with the unserviceable part(s), directly to the direct support unit for exchange for serviceable repair part(s).

b. A turn-in is the return of item(s) to the supply source. Items are turned in because they have become unserviceable, were over issued, or are excess to authorized allowances. A DA Form 2765 or 2765-1 is prepared for a turn-in to the appropriate supply support activity.

25-7. Repair Parts Supply Procedures

a. The procedure for the request and turn-in of repair parts and maintenance related supplies parallels general supply procedures. Unit commanders are responsible to assure that care is taken to protect such supplies from loss, damage, destruction, or, because of their nature (flashlight batteries, spark plugs, etc.), consumption in other than the public service.

b. Repair parts in motor transport units include all authorized repair parts for equipment

authorized to the unit; they are normally divided into, and administered in, two general categories:

(1) *Repair parts for motor vehicles and associated equipment* (trailers/semitrailers, air compressors, tank and pump units, etc.) which are used in the maintenance section in the performance of the section maintenance and repair mission. The maintenance of the stocks of and records for, and the preparation of requests and turn-ins of such repair parts are normally accomplished by unit maintenance shop clerical personnel under supervision and control of the motor maintenance sergeant and the automotive maintenance technician (maintenance officer).

(2) *Repair parts for other than motor vehicle equipment* (weapons, telephones and radios, field ranges, gas masks, etc.) which are used in the maintenance and repair of such items. The maintenance of the stocks of and records for, and the preparation of requests and turn-ins of such repair parts are normally accomplished in the unit supply section by the unit supply clerk and/or supply sergeant under the supervision and control of the designated unit property book officer.

c. The prescribed load list (PLL) may be either a machine printout or a DA Form 2063-R. This document indicates those quantities of repair parts and maintenance related supplies (normally 15 days of supply) required to be on hand in the unit. The prescribed load stocks are located at the organization level where personnel, tools, and equipment are authorized to perform maintenance on the equipment. Applicable -20 or -20P technical manuals are used to determine initial stockage levels. After the initial prescribed load is established, a Record of Demands—Title Insert, DA Form 3318, is maintained for each item authorized for stockage to record how often a particular part is requested so that stock levels can be adjusted based on actual demand experience. Major commanders may authorize additional prescribed loads based on unusual operational aspects such as extended operations, operating in isolated areas, and the requirement for nonstandard items of repair parts.

25-8. Individual/Organizational Clothing and Equipment Procedures

a. A consolidated record, DA Form 3327 (Personal Clothing Record—Enlisted Men), is used to record the issue and turn-in of individual/organizational clothing and equipment and is maintained by company supply personnel. This

record is maintained on an individual during his first 6 months of service. Upon completion of the first 6 months of service, and when all required items have been issued, this record is destroyed. If all required items have not been issued, the form will be retained until such issue is completed; it may then be destroyed.

b. An individual, upon entry onto active duty, receives his initial issue of personal clothing; when he is assigned to a unit, he may receive organizational clothing and equipment from either the unit property book officer or a central issue facility. When the individual transfers, he processes through the property book officer or central issue facility and turns in the items of organizational clothing and equipment not authorized for retention. The company must schedule and supervise the direct exchange of organizational clothing and equipment items which are unserviceable through fair wear and tear.

25-9. Supply Channels

a. Supply channels usually parallel command channels. For instance, a motor transport company has as its next higher echelon a motor transport battalion and normally the company goes to, or through, the battalion for general supplies obtained from supply support activities. However, when vehicle repair parts are required they are normally obtained directly through maintenance support channels. The battalion maintenance officer establishes and maintains liaison with the maintenance support activities upon which the battalion units are satellited and provides guidance and assistance to units, especially when difficulties are encountered in obtaining maintenance and/or repair parts support.

b. Within an organization, supply channels vary somewhat depending usually upon whether or not an item must be accounted for on property books, and upon the facilities that are provided by supply support activities. Expendable supplies may often be obtained by a unit directly from supply support activities through methods given in paragraph 25-6. Nonexpendable supplies are subject to property book accountability and must be obtained through the unit property book officer. The request goes from the unit to the organization, to the installation or direct support unit, and then to a national inventory control point (NICP) and its depot. The supplies pass back through the same channels except that they bypass the NICP.

25-10. Pecuniary Liability

Pecuniary liability is the obligation to make restitution for the loss, damage, or destruction of Government property resulting from fault or neglect. *Accountable* officers, having Government property entrusted to their care for storage and issue, and *responsible* officers are pecuniarily liable to the Government for any loss caused by their misconduct or negligence in maintaining proper accounting records and/or proper safeguards for the property. This is equally applicable to all military personnel who have Government property either in their physical possession or under their control.

25-11. Relief From Property Responsibility

When Government property has been lost, damaged, or destroyed, the individual with direct responsibility for the property must act immediately to obtain relief from property responsibility. The methods used to obtain this relief, based on the specified requirements and the circumstances under which the property was lost, damaged, or destroyed, are—

a. A DA Form 444 (*Inventory Adjustment Report*), which provides an authorized adjustment procedure whereby individuals having responsibility for property may obtain relief for such property which has been lost, damaged, or destroyed. Detailed instructions on the use of DA Form 444 are contained in chapter 2, AR 735-11.

b. A DD Form 362 (*Statement of Charges for Government Property Lost, Damaged or Destroyed*), which is prepared when property having a value of less than \$250 (except weapons) is lost, damaged, or destroyed, thus reimbursing the Government for the property. Liability must be voluntarily admitted by the individual concerned when using this method.

c. A DD Form 1131 (*Cash Collection Voucher*), which may also be used under the same circumstances as for the statement of charges. This method involves a cash collection direct from the individual.

d. A DD Form 200 (*Report of Survey*), which is submitted regarding the loss when the above methods are inappropriate to secure relief for lost, damaged, or destroyed Government property. The report of survey is the least economical of all methods and involves collecting and reporting the facts and circumstances regarding the loss, damage, or destruction of the property nec-

essary to make a determination if the individual or individuals are responsible for the loss to the Government. See AR 735-11 for details.

25-12. Unit Supply Responsibilities

Company personnel directly concerned with supply activities within a unit include the company commander, the unit supply officer (property book officer), the platoon leaders, the supply sergeant, and the armorer. Their supply duties are as follows: (See also Commander's Checklist, paragraph C-6, Unit Supply.)

a. Company Commander. The company commander has the overall responsibility for supply activities in the company; this responsibility cannot be delegated. Specific requirements of the company commander are to insure that all authorized equipment is on hand or that a request has been submitted for equipment authorized but not on hand; by frequent inspections, determine that all company property is complete and serviceable; assure that company supply personnel are properly trained in their duties; make sure that all members of the company know how to correctly maintain unit property; assure that no property is on hand which is not authorized by proper authority; take immediate measures to account for company property which has been lost, damaged, or destroyed; and develop a unit standing operating procedure for the security of all unit property.

b. Supply Officer. Based on platoon officer qualifications and on his own judgment, the company commander selects one of his platoon officers to have the additional duty of supply officer. As the unit supply officer and the company commander's principal assistant in the area of supply, this officer's duties include but are not limited to receipting for and controlling TOE and station property for the company; assisting the company commander in conducting inspections and inventories of unit property; coordinating with higher headquarters supply personnel on company supply matters; and supervising the company supply sergeant, the supply clerk, and the armorer.

c. Platoon Leaders. Having direct responsibility for the property of his platoon, each platoon leader has certain specific supply functions which include assuring that members of his platoon maintain the property under their control; making sure that members of his platoon are trained in proper maintenance procedures and that they have the supplies necessary to do the required maintenance; conducting frequent inspections of platoon property to make sure that the property is being maintained satisfactorily and that the required amount of property is on hand or on request; submitting on a timely basis the proper adjustment documents for platoon property lost, damaged, or destroyed; and storing authorized property when it is not being used by a member of the platoon.

d. Supply Sergeant. Differing from other members of the company in that supply is his principal duty, the supply sergeant's duties include preparing and maintaining supply records; preparing or supervising the preparation of requests for and/or turn-in of supplies; safeguarding supplies and property stored in the company supply room; and processing unit laundry to include receipt of laundry from individuals, delivery to military laundry, and return to individuals. He also controls the issue and turn-in of supplies between the company and individuals, assists the supply officer and platoon leaders in supply matters, and determines the needs for and obtains selected expendable supplies for the company (see also para 7-16).

e. Supply Clerk. This clerk is the administrative assistant to the supply sergeant. He assists the supply sergeant in the preparation and maintenance of supply records and requests for supply action. He performs such other supply duties as assigned by the supply officer and the supply sergeant.

f. Armorer. In addition to his regular duties relating to the maintenance, repair, storage, and issue of unit weapons, the armorer is an assistant to the supply sergeant. In this capacity he performs supply duties assigned by the supply officer and the supply sergeant.



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APPENDIX A

REFERENCES

A-1. Army Regulations (AR)

27-10	Military Justice.
30-1	The Army Food Service Program.
30-46	Subsistence Report and Field Ration Request.
55-71	Transportation of Personal Property and Related Services.
55-113	Movement of Units Within Continental United States.
55-162	Permits for Oversize, Overweight, or Other Special Military Movements on Public Highways in the Contiguous States and the District of Columbia of the United States.
55-165	Agreement Between Army and Air Force for Joint Operation of Cargo Transporters in CONEX Service.
55-166	Utilization of Cargo Transporters in CONEX Service.
55-355	Military Traffic Management Regulation.
58-1	Joint Procedures for Management of Administrative Use Motor Vehicles.
65-75	Unit Mail Service.
190-5	Military Police, Motor Vehicle Traffic Supervision.
190-11	Physical Security Standards for Protection of Weapons and Ammunition.
220-1	Unit Readiness.
220-10	Preparation for Oversea Movement of Units (POM).
220-45	Duty Rosters.
230-1	Nonappropriated Funds and Related Activities.
230-21	Accounting Procedures for Nonappropriated Unit Funds, Inmates Welfare Funds, Stockade Welfare Funds, and Commandant's Welfare Funds.
310-10	Orders.
310-25	Dictionary of United States Army Terms.
310-49	The Army Authorization Documents System (TAADS).
310-50	Authorized Abbreviations and Brevity Codes.
340-2	Maintenance and Disposition of Records in TOE Units of the Active Army and the Army Reserve.
340-15	Preparing Correspondence.
350-4	Qualification and Familiarization With Weapons and Weapon Systems.
350-13	Materiel Readiness.
350-30	Code of Conduct.
350-212	Military Justice.
380-5	Safeguarding Defense Information.
380-41	Control of COMSEC Material.
385-10	Army Safety Program.
385-40	Accident Reporting and Records.
385-55	Prevention of Motor Vehicle Accidents.
420-90	Fire Prevention and Protection.
600-6	Individual Sick Slip.
600-55	Motor Vehicle Driver—Selection, Testing, and Licensing.
600-58	Mechanical Equipment Operator—Selection, Training, Testing, and Licensing.
600-200	Enlisted Personnel Management System.

FM 55-31

601-280	Army Reenlistment Program.
611-103	Officer Qualification and Classification.
611-201	Enlisted Military Occupational Specialties.
640-10	Individual Military Personnel Records.
672-5-1	Awards.
680-1	Morning Report.
710-2	Materiel Management for Using Units, Support Units, and Installations.
711-5	Army Equipment Status Reporting System; Unit, Organization, or Activity Equipment Status Reporting (Materiel Readiness).
725-50	Requisitioning, Receipt, and Issue System.
735-5	Property Accountability; General Principles and Policies and Basic Procedures.
735-10	Principles and Policies; Accounting for Lost, Damaged, and Destroyed Property.
735-11	Accounting for Lost, Damaged, and Destroyed Property.
746-1	Color, Marking, and Preparation of Equipment for Shipment.
750-series	Maintenance of Supplies and Equipment.

A-2. Field Manuals (FM)

3-12	Operational Aspects of Radiological Defense.
5-20	Camouflage.
5-25	Explosives and Demolition.
5-34	Engineer Field Data.
5-35	Engineers' Reference and Logistical Data.
5-36	Route Reconnaissance and Classification.
8-35	Transportation of the Sick and Wounded.
10-60	Supply of Subsistence in a Theater of Operations.
14-8	Class A Agent Officers.
19-25	Military Police Traffic Control.
19-30	Physical Security.
20-22	Vehicle Recovery Operations.
21-5	Military Training Management.
21-6	Techniques of Military Instruction.
21-10	Field Hygiene and Sanitation.
21-11	First Aid for Soldiers.
21-26	Map Reading.
21-30	Military Symbols.
21-41	Soldier's Handbook for Defense Against Chemical and Biological Operations and Nuclear Warfare.
21-48	Chemical, Biological, and Radiological (CBR) and Nuclear Defense Training Exercises.
21-60	Visual Signals.
22-100	Military Leadership.
24-16	Signal Orders, Records, and Reports.
24-18	Field Radio Techniques.
24-20	Field Wire and Field Cable Techniques.
29-2	Organizational Maintenance Management.
30-28	Armed Forces Censorship.
31-70	Basic Cold Weather Manual.
31-85	Rear Area Protection (RAP) Operations.
55-1	Army Transportation Services in a Theater of Operations.
55-8	Transportation Intelligence.
55-10	Army Transportation Movements Management.
55-15	Transportation Reference Data.
55-30	Army Motor Transport Operations.
55-60	Army Terminal Operations.

100-10	Combat Service Support.
101-5	Staff Officers' Field Manual—Staff Organization and Procedure.
101-10-1	Staff Officers' Field Manual: Organizational, Technical, and Logistical Data—Unclassified Data.

A-3. Technical Manuals (TM)

3-210	Fallout Prediction.
9-207	Operation and Maintenance of Army Materiel in Extreme Cold Weather 0° to -60°.
9-500	Data Sheets for Ordnance Type Materiel.
9-1300-200	Ammunition, General.
10-401	The Army Food Adviser.
10-405	Army Mess Operations.
10-1101	Petroleum Handling Equipment and Operations.
21-300	Driver Selection and Training (Wheeled Vehicles).
21-301	Driver Selection, Training, and Supervision, Tracked Vehicles.
21-305	Manual for the Wheeled Vehicle Driver.
21-306	Manual for the Tracked Combat Vehicle Driver.
38-750	The Army Maintenance Management Systems (TAMMS).
55-310	Motor Transport Operations.
55-311	Motor Convoy Security in Stability Operations.
55-312	Military Convoy Operations in CONUS.
55-604	Troop Movement Guide.

A-4. Tables of Organization and Equipment (TOE)

29-500	Composite Service Organization.
29-600	Organizational Maintenance Teams.
55-2	Headquarters and Headquarters Company, Transportation Command.
55-11	Headquarters and Headquarters Company, Transportation Motor Transport Brigade.
55-12	Headquarters and Headquarters Detachment, Transportation Motor Transport Group.
55-16	Headquarters and Headquarters Detachment, Transportation Motor Transport Battalion.
55-17	Transportation Light Truck Company.
55-18	Transportation Medium Truck Company.
55-19	Transportation Car Company (Support Command or Airborne Corps).
55-28	Transportation Heavy Truck Company.
55-62	Headquarters and Headquarters Company, Transportation Brigade.
55-67	Transportation Light-Medium Truck Company.
55-84	Transportation Motor Transport Company, Supply and Transport Battalion, Infantry Division (Mechanized).
55-87	Transportation Motor Transport Company, Supply and Transport Battalion, Armored Division.
55-88	Transportation Motor Transport Company, Supply and Transport Battalion, Infantry Division.
55-540	Transportation Motor Transport Teams.

A-5. Department of the Army Pamphlets (DA Pam)

35-1	Pay Guide for Small Unit Commanders.
40-2	Field Sanitation Team Training.
108-1	Index of Army Motion Pictures and Related Audio-Visual Aids.
310-series	Military Publication Indexes.
350-series	Instructor Guides for Commanders.
385-1	Unit Safety Management.
600-8	Military Personnel Office Management and Administrative Procedures.

FM 55-31

690-80	Administration of Foreign Labor During Hostilities.
700-2	Commander's Supply and Maintenance Handbook.
750-series	Preventive Maintenance Guide for Commanders.

A-6. Supply Bulletin (SB)

700-20	Army Adopted Items of Materiel and List of Reportable Items.
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A-7. Technical Bulletin (TB)

55-46-1	Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Equipment.
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A-8. Army Training Programs (ATP)

55-11	Transportation Motor Transport Units.
21-114	Male Military Personnel Without Prior Service.

A-9. DOD Regulations

4500.32-R	Military Standard Transportation and Movement Procedures (MIL-STAMP).
	Department of Defense Military Pay and Allowances Entitlements Manual.

A-10. Common Table of Allowances (CTA)

20-2	Equipment for Training Purposes.
50-911	Equipment for Food Service Facilities Serving Field Installations, Troop and Hospital Trains, and Army Vessels.
50-914	Individual Safety and Protective Clothing and Equipment.

A-11. Standard Forms (SF)

46	US Government Motor Vehicle Operator's Identification Card.
91	Operator Report on Motor Vehicle Accidents.

A-12. Miscellaneous

	Uniform Code of Military Justice.
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APPENDIX B

CONVERSION TABLES

Linear Measure

Kilometers to miles (km $\times$.621 = mi) (km $\div$ 1.609 = mi)	Miles to kilometers (mi $\times$ 1.609 = km) (mi $\div$.621 = km)
1 = .62	1 = 1.60
2 = 1.24	2 = 3.21
3 = 1.86	3 = 4.82
4 = 2.48	4 = 6.43
5 = 3.10	5 = 8.04
6 = 3.72	6 = 9.65
7 = 4.34	7 = 11.26
8 = 4.96	8 = 12.87
9 = 5.58	9 = 14.48
10 = 6.21	10 = 16.09
20 = 12.42	20 = 32.18
30 = 18.63	30 = 48.27
40 = 24.84	40 = 64.36
50 = 31.05	50 = 80.45

Liquid Measure

Gallons (US)	$\times$ 3.785	= liters
Gallons (US)	$\times$.8327	= gallons (imperial)
Gallons (US)	$\times$ 3.332	= quarts (imperial)
Quarts (US)	$\times$.946	= liters
Quarts (US)	$\times$.2082	= gallons (imperial)
Quarts (US)	$\times$.8327	= quarts (imperial)
Liters	$\times$.2642	= gallons (US)
Liters	$\times$ 1.057	= quarts (US)
Liters	$\times$.2201	= gallons (imperial)
Liters	$\times$.8804	= quarts (imperial)
Gallons (imperial)	$\times$ 1.201	= gallons (US)
Gallons (imperial)	$\times$ 4.802	= quarts (US)
Gallons (imperial)	$\times$ 4.545	= liters
Quarts (imperial)	$\times$.3001	= gallons (US)
Quarts (imperial)	$\times$ 1.201	= quarts (US)
Quarts (imperial)	$\times$ 1.136	= liters



APPENDIX C

COMMANDER'S CHECKLIST

Section I. GENERAL

C-1. As an Aid to Commander

The following checklist is offered as a guide for use by the company commander when conducting inspections within his unit. It offers a yardstick by which the commander may measure the efficiency of operations within his company and by which he may determine any functional areas which may require additional training, instruction, or guidance.

C-2. As an Aid to Other Personnel

This checklist may also be used by other personnel of the company in the performance of their

duties. For instance, paragraph C-5, Unit Mess, may be used by the mess steward in operating the mess and by the mess officer in performing his mess management supervisory duties.

C-3. Modified When Necessary

This checklist is not intended to be absolutely complete, nor may all items be fully applicable to all units in every instance. Varying operational conditions, local procedures, and/or command directives may require modification of this list; commanders should take necessary action to ensure that changes, additions, and/or deletions are made as required.

Section II. COMPANY OPERATIONS AND FUNCTIONS

C-4. Company Administration

a. Morning Report (DA Form 1).

- (1) References: AR 310-50, AR 680-1.
- (2) Are morning reports prepared in accordance with AR 680-1?
- (3) Are authorized abbreviations used in preparing morning reports?
- (4) Are morning reports prepared and submitted on time?
- (5) Are delayed morning report entries held to a minimum?
- (6) Are errors on previous morning reports, if any, corrected in the proper manner?

b. Duty Rosters (DA Form 6).

- (1) Reference: AR 220-45.
- (2) Are duty rosters maintained in accordance with AR 220-45?
- (3) Are separate duty rosters maintained for each duty requiring the detail of individual?
- (4) Are consolidated weekday-weekend-holiday duty rosters maintained where practicable?

- (5) Are only names of eligible individuals required to perform the duty entered on the duty roster?

c. Company Orders.

- (1) Reference: AR 310-10.
- (2) Are company orders numbered chronologically for each calendar year?
- (3) Do company orders conform to approved format?
- (4) Has no more than one company order been published on any one date?
- (5) Have all company orders been signed by the company commander?

- (6) Are original copies of all company orders for the present calendar year on file?

d. Functional Files.

- (1) References: AR 340-5, AR 340-15, AR 340-2.
- (2) Are functional files inspected periodically and is obsolete material withdrawn and destroyed?

(3) Has a specific person been assigned the responsibility for the records management program?

(4) Is a current copy of AR 340-16 available in the unit?

(5) Are one-drawer filing cabinets used for the maintenance and storage of all files?

(6) Is the functional files system properly used for all files created?

(7) Do folder labels show file number, file title, date of file, and disposition instructions?

(8) Are folder guides positioned properly?

(9) Are standard file supplies used throughout the unit?

(10) Has a selected list of file numbers been prepared?

(11) Are new folders prepared when material exceeds the normal capacity of a file folder?

(12) Are no reference publications in excess of actual needs on file?

(13) Are record and reference copies of unit publications (orders) properly maintained?

(14) Are required regulations, circulars, and other directives on hand and current?

(15) Are file copies of unit correspondence prepared on colored tissue instead of white tissue?

(16) Are documents checked for file authority before being filed?

(17) Are file drawers properly identified as to contents?

e. Publications Files.

(1) References: AR 310-1, DA Pamphlet 310-10.

(2) Is a publications file maintained?

(3) Are required publications on hand?

(4) Are publications frequently checked and is superseded material removed from the file?

(5) Has a DA Form 12, Request for Establishment of a Publications Account, been submitted to the appropriate US Army Adjutant General publications center?

(6) Does the unit have on file one copy of each applicable DA Form 12-series in effect?

(7) Has a list been prepared showing the disposition to be made upon receipt of items requested on the DA Form 12-series?

(8) Has a suspense file been established for

all publications requisitioned and not yet received, showing disposition to be made upon receipt?

(9) Is an adequate supply (monthly) of forms maintained as prescribed by current needs?

(10) Has the unit publications officer made a survey of publications required for each platoon and section; have required publications been requisitioned?

(11) Has action been taken to conduct on-the-job training in publications distribution procedures for all personnel concerned with the supply of publications?

(12) Are reference publications, DA Pamphlet 310-series, maintained to ensure that required military publications are current, on hand, or on requisition?

f. Bulletin Board.

(1) Is the bulletin board located where it is readily accessible to all unit personnel?

(2) Is the bulletin board kept in a neat condition?

(3) Is the posted information current and pertinent?

g. Unit Mail Services.

(1) References: AR 65-75, AR 340-2.

(2) Are up-to-date copies of pertinent references available to unit mail personnel?

(3) Has a postal officer been appointed on unit orders?

(4) Have a mail clerk and at least one alternate been appointed and recorded on DD Form 285?

(5) Does the unit postal officer understand his responsibilities?

(6) Is the unit mail clerk familiar with the procedures for forwarding mail?

(7) Does the mail clerk understand his responsibilities for mail entrusted to his custody?

(8) Is the unit locator file kept up to date?

(9) Does the unit have a standing operating procedure (SOP) for the handling and routing of mail for troops in the field?

(10) Are mail files established in accordance with AR 340-16?

(11) Have hours of collection and distribution been posted on all mail boxes?

(12) Is mail delivered promptly?

(13) Is a daily accounting made of all registered, insured, and certified mail?

(14) Are physical facilities for the protection of mail, especially registered mail, adequate?

(15) Are all keys to the mailroom properly accounted for?

h. Unit Fund.

(1) References: AR 230-1, AR 230-21.

(2) Is the unit fund maintained in accordance with the provisions of AR 230-21?

(3) Is unit fund cash on hand secured by the custodian at all times?

(4) Is unit fund income (cash, checks, negotiable instruments) promptly deposited in the bank?

(5) Are funds deposited in an account under the official designation of the unit fund and not to the credit of the custodian as an individual?

(6) Is all unit fund property entered in the property section of the council book accounted for and in serviceable condition?

(7) Has a unit fund council been properly appointed?

(8) Are the minutes of unit fund meetings on file?

(9) Are financial obligations of the fund paid promptly to take advantage of discounts offered for prompt payment?

(10) Are single expenditures in excess of \$500.00 approved by higher headquarters?

(11) Are all fund deposits supported by bank deposit slips?

(12) Are all fund expenditures covered by canceled checks?

(13) Has the fund been audited by an inspector general during the past year; by a disinterested officer quarterly?

i. Safeguarding Classified Documents.

(1) References: AR 220-10, AR 340-2, AR 380-5, AR 380-6, AR 380-51, AR 380-105, AR 380-150.

(2) Have a security control officer and an alternate been appointed on company orders?

(3) Are all personnel who have access to classified documents cleared, and are they familiar with the provisions of AR 380-5?

(4) Are all classified documents properly secured?

(5) Is the type of container used for the storage of classified documents authorized?

(6) Are all classified documents accounted for? Are periodic inventories of classified documents conducted?

(7) Are all classified documents reviewed periodically for regrading instructions?

(8) Are personnel aware of SAEDA (subversion and espionage directed against the US Army) regulations and of incidents that should be reported?

(9) Is a procedure established to debrief departing personnel who have had access to classified material?

(10) Is a roster maintained in current status for all unit personnel cleared for access to classified information?

(11) Do unit duty officer instructions include actions to be taken in the event of a possible security violation?

(12) Are there no classified documents held that are not necessary to the operation of the unit?

(13) Are file folders stamped with the highest classification of the documents contained therein?

(14) Are classified and unclassified files and documents properly separated in the files?

(15) Are cloth typewriter ribbons which are used in typing classified information adequately secured until the ribbon is cycled through the typewriter, using random letters and numbers, at least four times, two on the upper ribbon line and two on the lower ribbon line.

(16) Are drafts and working papers annotated with the appropriate degree of classification or protective marking?

(17) Are classified working papers that are retained for a long period brought under accountability control?

(18) Are procedures established in the unit for the proper disposition of working papers, carbons, typewriter ribbons, and other materials used in the preparation of classified documents?

(19) Are combinations changed or locks rotated in accordance with regulations?

(20) Is Part 1, DA Form 727, (Classified Container Information), affixed to each container

containing classified information? (It WILL NOT be used for containers that do not contain classified information.)

(21) Have Parts 2 and 3, DA Form 727, been properly prepared and forwarded to the control office of the appropriate headquarters?

(22) Is DA Form 672, (Safe or Cabinet Security Record), affixed to each container containing classified information; is it properly maintained?

(23) Are placards used to indicate that the container is open or closed?

(24) Are cover sheets used to cover classified documents when they are removed from the files?

(25) Is the classified material emergency evacuation or removal plan posted in the vicinity of the classified files?

(26) Is the evacuation priority posted on each classified container?

(27) Are restricted data safeguarded in accordance with AR 380-150?

(28) Do all personnel requiring a security clearance possess proper clearance?

(29) Is material marked "For Official Use Only" properly safeguarded?

j. Commander's Information Program.

(1) References: AR 360-81, AR 604-20; FM 21-6.

(2) Is the command information instruction given by, or directly supervised by, the company commander?

(3) Are security clearance requirements adhered to when selecting personnel for command information duties?

(4) Are provisions of separation or transfer to reserve status being complied with in accordance with AR 360-81?

(5) Does a command information news center exist in a troop traffic area in the barracks?

(6) Does the news center have posted a world news map or a world map; are significant world and national news clippings or pages from magazines displayed?

(7) Are commander's calls included in the unit training schedule?

(8) Is there a chain of command display with portraits of commanders from the President down to the unit commander?

k. Reenlistment Program.

(1) Reference: AR 601-280.

(2) See sample reenlistment assistance survey format in figure C-1 for suggested checklist.

C-5. Unit Mess

a. References: AR 30-1, AR 30-46, AR 40-5; TM 10-401, TM 10-405, TM 10-412.

b. Garbage Rack/Stand.

(1) Are garbage cans cleaned daily?

(2) Are garbage cans in good condition?

(3) Do garbage cans have tight fitting lids?

(4) Are garbage cans kept on the rack/stand and off the ground?

(5) Is waste properly segregated and labeled?

(6) Is the volume of edible waste low?

(7) Is area around garbage rack/stand well policed?

(8) Is proper disposal made of tin cans, sacks, egg crates, and cartons?

c. Rear Entrance.

(1) Are steps and doors clean?

(2) Are doors tight (insect and rodent proof)?

(3) Is the fuel storage area free of trash?

(4) Is a broom rack of the proper type available?

(5) Are mops and brooms suspended so that the heads hang downward and are they clean and serviceable?

d. General Appearance of Mess Area.

(1) Is the general appearance of building and grounds good?

(2) Is the police around and/or under the building satisfactory?

(3) Are windows properly screened?

(4) Are screens clean and free of tears?

(5) Are buildings properly secured?

e. Kitchen Storeroom.

(1) Is the storeroom clean and neat in appearance?

(2) Are rations segregated properly?

(3) Are all rations stored on shelves; is the floor kept clear?

REENLISTMENT ASSISTANCE SURVEY (AR 601-280)				DATE OF SURVEY		
1. UNIT			2. COMMANDING OFFICER			
3. REENLISTMENT OFFICER			4. REENLISTMENT NON-COMMISSIONED OFFICER			
5. UNIT ACCOMPLISHMENTS (6 months period)			6. STRENGTH (6 months average)		ENLISTED	
OBJECTIVE	REENLISTED	%	AUTHORIZED	OFFICER		
			OPERATING			
7. CHECKLIST					YES	NO
a. Has the unit Reenlistment Officer/Non-commissioned Officer been appointed on orders?						
b. Is the Reenlistment Non-commissioned Officer aware of the unit reenlistment objective?						
c. Is the objective being achieved?						
d. Are appropriate statistics maintained and disseminated?						
e. Is the unit Reenlistment Non-commissioned Officer receiving formal instruction required by AR 601-280?						
f. Is the unit receiving adequate support from career counselors at higher headquarters?						
g. Are Reenlistment Data Cards (DA Form 1315), properly completed, being received within required time frames from servicing personnel sections?						
h. Is the Reenlistment Data Card File established in accordance with AR 601-280?						
i. Are all Reenlistment Data Cards accounted for? Strength Disposition						
j. Are all entries on DA Forms 1315 current?						
k. Are all personnel interviewed in accordance with AR 601-280 as supplemented?						
l. Are interview remarks self-explanatory and sufficiently detailed to be of value to subsequent interviewers?						
m. Do remarks on DA Forms 1315 agree with personnel queried? Number queried						
n. Are ineligible personnel advised of their ineligibility by the unit commander and procedure of attaining eligibility?						
o. Are personnel viewing required films within appropriate time frames?						
p. Are Reenlistment Data Cards being disposed of in accordance with AR 601-280 as supplemented?						
q. Has the unit Reenlistment Program been inspected and results recorded on the "Record of Inspection Card"?						
r. Is adequate assistance afforded by higher headquarters?						
s. Does the unit have a Reenlistment Bulletin Board?						
(1) Is it neat?						
(2) Is it informative?						
(3) Is the name, location and telephone number of unit reenlistment personnel and supporting career counselors posted?						
(4) Is the unit reenlistment incentive program posted on the bulletin board?						
t. Is there a reenlistment facility/area attractively furnished and private?						
u. Are the required regulations maintained within the unit?						
v. Is the unit incentive awards program sufficient in scope to be effective?						
w. Is the bar to reenlistment being effectively utilized?						
x. Are key personnel within the unit familiar with, and actively supporting the reenlistment program?						
8. REMARKS:						
9. OVERALL EVALUATION						
☐ SUPERIOR ☐ EXCELLENT ☐ UNSATISFACTORY						
10. SIGNATURE (Inspecting Officer/NCO)						

Figure C-1. Suggested reenlistment survey format.

(4) Are stored rations kept clear of steam-pipes?

(5) Are ration supplies properly rotated?

(6) Is the storeroom locked when not in use?

(7) Are cleaning materials stored in a location other than the ration storeroom?

(8) Are windows properly secured?

(9) Are excess rations turned in properly?

(10) Nonrefrigerated perishables.

(a) Are perishables inspected upon receipt; are deteriorated subsistence items removed?

(b) Is a daily inspection of stored perishables made for the removal of deteriorated items?

f. Refrigeration.

(1) Is the temperature maintained between 32° and 45° F?

(2) Are interiors of refrigerators clean and neat?

(3) Is food in refrigerators properly segregated?

(4) Is food in refrigerators kept covered?

(5) Is food kept off bottom of refrigerator so that air can circulate freely?

(6) Are there excessive leftovers in the refrigerator?

(7) Frozen foods.

(a) Are frozen subsistence items inspected upon receipt and deteriorated items removed?

(b) Are frozen subsistence items refrigerated promptly?

(c) Are such items inspected frequently for deterioration?

g. Bread Storage.

(1) Can air circulate freely around stored bread?

(2) Is bread fresh?

(3) Is breadbox clean?

(4) Is breadbox insect and rodent proof?

(5) Is bread stored so as to prevent crushing of loaves?

h. Worktable.

(1) Is the worktable clean and in good condition?

(2) Have racks been installed nearby to hold kitchen utensils?

i. Pots, Pans, Utensils, and Silverware.

(1) Are these items stored to permit air drying?

(2) Are pans stored with bottoms up?

(3) Are pans clean and in good condition?

(4) Washing.

(a) Are pots, pans, utensils, and silverware washed in lukewarm water containing soap or detergent?

(b) Are these items prerinsed in clear hot water?

(c) Are they immersed in a final rinse of clear hot water (minimum 180°) for at least 30 seconds?

j. Ranges.

(1) Are ranges clean and in good operating condition?

(2) Is a thermometer or thermostat installed on each range and is it operable?

(3) Are cooks qualified to operate ranges?

(4) Are ranges operated by the cooks in a safe manner?

k. Personnel.

(1) Personal hygiene.

(a) Are mess personnel freshly shaved, bathed, and well groomed?

(b) Do mess personnel have proper and neatly trimmed haircuts?

(c) Are their nails neatly trimmed and clean?

(2) Are mess personnel dressed in neat and clean uniforms?

(3) Are their shoes or boots clean and polished?

(4) Do mess personnel show signs of a communicable disease or do they have open sores (para r(3))?

(5) Is a daily inspection made of personnel prior to their going on shift?

(6) Are facilities for maintaining personal hygiene adequate?

(7) Are mess operations supervised by the mess officer and the mess steward?

(8) Is military courtesy practiced by mess personnel?

l. Cooks' Worksheet (DA Form 3034).

(1) Is the Cooks' Worksheet prepared by the mess steward?

(2) Is the Cooks' Worksheet displayed in the kitchen and is it readily accessible to cooks for reference?

(3) Do cooks follow the worksheet special instructions?

(4) Are leftovers used?

(5) Are waste figures checked for accuracy?

(6) Are worksheets complete to include all required computations and signatures?

m. Food Preparation and Cooking.

(1) Is TM 10-412 readily available?

(2) Is food prepared carefully and economically?

(3) Does the time of preparation and cooking conform to the Cooks' Worksheet?

(4) Is overcooking avoided to preserve vitamin content?

(5) Is food seasoned carefully and adequately?

(6) Does the food taste good?

n. Serving.

(1) Is the counter clean and attractive in appearance?

(2) Is the serving line effectively organized to include protection from inclement weather.

(3) Are personnel who are assigned to operate the serving line neat, clean, adequate in number, and wearing appropriate clothing and headgear?

(4) Is an appropriate menu or sample dish displayed?

(5) Cafeteria style service.

(a) Is food served in proper sequence?

(b) Is food arranged in containers neatly and attractively with appropriate garnishing?

(c) Are adequate portions served?

(d) Is food served on time, with hot foods hot and cold foods cold?

(e) Is the waste disposal point a sufficient distance from the serving counter to preclude an unpleasant atmosphere for those being served?

o. Conservation and Control.

(1) General.

(a) Does the mess steward stress conservation in all phases of food service operation?

(b) Is waste in the preparation of food kept to a minimum?

(2) Plate waste point.

(a) Is plate waste properly segregated?

(b) Is plate waste controlled by the mess steward and the mess officer?

(c) Are causes of excessive plate waste determined and corrective action taken?

p. Dining Hall.

(1) Are floors, walls, and windows clean?

(2) Is lighting adequate and are lighting fixtures clean?

(3) Are proper dispensers, as listed in CTA 50-911, used for trays, glassware, and silverware?

(4) Does the dining hall present a neat and attractive appearance with a pleasant atmosphere?

q. Control of Operations.

(1) Are the number of rations required for consumption on future dates accurately estimated?

(2) Does the mess steward accurately inventory and inspect rations on receipt?

(3) Is the meal attendance head count used to assist in preparing the ration estimate?

(4) Are the required head count personnel detailed?

(5) Is the required daily mess operations meeting timely, informative, and productive?

(6) Do all mess personnel receive continuous on-the-job training?

(7) Are mess personnel organized into shifts, each capable of performing all functions required in the operation of the mess?

(8) Does the mess steward control mess operations through the medium of the Cooks' Worksheet?

(9) Does the mess steward list job assignments that must be performed?

(10) Are breakage and losses controlled?

r. Examination of Food Handlers.

(1) Are food handlers given a medical examination before being assigned and after resuming food handling duties when they have been continuously absent for 30 days?

(2) Are reports of the results of above examinations filed with mess records; are they for-

warded with the individual's records upon transfer?

(3) Does the mess steward inspect all mess personnel daily at the start of their work period; are all persons who exhibit signs of illness or skin disease or who have infected cuts referred to the medical officer?

s. Personnel Authorized to Subsist.

(1) Are meal cards issued to all enlisted personnel to indicate the individual's authority to subsist with or without charge?

(2) Does the person detailed to make head count check meal cards upon entry of individuals into dining hall?

(3) Are unused meal cards secured in the unit orderly room?

(4) Is a guest register used to account for all meals served to enlisted personnel not on separate rations status and not assigned or attached to the unit for rations?

(5) Are personnel on separate rations required to reimburse the Government for meals consumed?

(6) Is a surcharge collected when appropriate?

(7) Are cash turn-ins made as required by regulations or local directives?

(8) Does a unit officer (warrant officer) parktake of one or more meals daily to determine quality and adequacy of food served?

(9) Are officer personnel in an official capacity allowed to sample food?

C-6. Unit Supply

a. General.

(1) References: AR 190-11, AR 385-32, AR 700-84, AR 710-2, AR 711-5, AR 725-1, AR 735-5, AR 735-10, AR 735-11; DA Pamphlet 310-series, DA Pamphlet 350-series, DA Pamphlet 700-2; SB 700-20; TM 38-750; all applicable tables of organization and equipment, tables of allowances, and technical manuals; and all supply manuals and supply catalogs.

(2) Are supply personnel adequately trained and properly supervised?

(3) Are all records neat and legible?

b. Supply Room.

(1) Is the supply room secure against unlawful entry, or, if the company is in the field, is the supply tent properly guarded?

(2) Are all keys to the supply room and arms racks accounted for; are the keys in the possession of authorized personnel?

(3) Are keys to the supply room readily available in case of fire or other emergency?

(4) Is fire protection adequate?

(5) Are arrangements for the receipt, handling, and issue of property the best consistent with facilities available?

(6) When practicable, are supplies segregated by type; that is, organization, installation, and expendables?

(7) Are arrangements adequate for the safekeeping of property of absentees, including personnel in the hospital?

(8) Is the supply room library of publications (AR's, SB's, TM's, etc.) complete considering the scope of operations?

(9) Are supplies protected against dust, water, and deterioration?

(10) Is stored equipment maintained on a scheduled basis?

c. DA Form 2064 (Document Register for Supply Action).

(1) Are all documents concerning organization and installation property posted to the document register properly?

(2) Are document numbers assigned in numerical sequence by Julian date and fiscal year?

(3) Are all documents on file in the document register complete?

(4) Are separate document registers maintained for expendable and nonexpendable property transactions?

d. Document File.

(1) Does the document file consist of all documents supporting entries in the property book for receipt and turn-in of property?

(2) Are documents filed in the sequence of document numbers assigned by the organization property book officer?

(3) Has every document which must be posted to a property book been assigned a document number; has it been posted and verified by date and the initials of the person posting the information shown?

(4) If a document has been lost and no duplicate is available, is a certificate filed in its place?

e. Suspense File.

(1) Is a suspense file prepared and properly maintained?

(2) Is it being used for its intended purpose?

(3) Are suspense copies of property documents destroyed when completed action copies are received?

f. Table of Organization and Equipment (TOE) Organization Property Book (if authorized or required).

(1) Is a certificate of accountability properly completed and signed on the first page of the property book?

(2) Does the organization property book contain a properly prepared page for every item in the applicable TOE, in common-type tables of allowances (CTA), or in other authorization media?

(3) Are deviations from amounts authorized by these tables supported by letters of authorization from competent authority and shown as current operating allowance?

(4) Are the items recorded in the "Balance" column on hand and in a serviceable condition?

(5) Are unit assemblies, chests, kits, and outfits carried as single items?

(6) Does the amount recorded in the "Balance" column plus the amount on requisition equal the current operating allowance?

(7) Is there an entry on each page of the property book to indicate that it has been inventoried during the past year?

(8) Are all supplies in excess of current operating allowances turned in promptly?

(9) Have lost and unserviceable items been adjusted in accordance with AR 735-11?

(10) Are all required entries on the front of the property book page, except those in the allowance, authority, price, Federal stock number, and line description columns, entered in ink?

(11) Are all entries (except (14) below) on the reverse side of the property book page made in pencil?

(12) Are stock numbers and item descriptions correct?

(13) Are all entries, except inventories, supported and identified by a document number?

(14) Are required serial numbers listed on appropriate pages and annexes in ink?

(15) Is the organization property book neat?

(16) Are expendable pages flagged for items in section III of TOE's and reportable in accordance with AR 711-5?

g. Installation Property Book (when required).

(1) Does the installation property book contain a page for every item authorized the organization by appropriate table of allowances?

(2) Are deviations from the amounts authorized by these tables supported by letters of authorization from competent authority and shown as current operating allowance?

(3) Are all items listed in the "Balance" column on hand and in serviceable condition?

(4) Are unit assemblies, chests, kits, and outfits carried as single items?

h. Hand Receipt/Annex No. (DA Form 2062) File.

(1) Are hand receipts prepared in duplicate—original retained in the office of the property book officer and duplicate given to the responsible officer?

(2) Does the total quantity of any line item reflected in the hand receipt files of a property book officer plus any quantity of the item in his possession agree with the figure in the "Balance" column of the appropriate property book page?

(3) Is a folder established for each hand receipt account, clearly identifying on the outside the hand receipt file number and the user?

(4) Does each hand receipt file list all end items for which direct responsibility has been fixed?

(5) When required by regulations, are serial numbers of items issued annotated on the hand receipt?

(6) Are annexes on file which list shortages or overages of basic issue items and their components?

(7) Expendable supplies.

(a) Are consumption experience factors used to determine monthly expendable requirements?

(b) Do expendable supplies on hand or on requisition represent no more than the monthly requirements?

(c) Are transactions for expendable supplies posted to the appropriate document register?

i. Individual/Organizational Clothing and Equipment Record (Male) (DA Form 3327) (when required).

(1) Is there a DA Form 3327 prepared and on hand for each individual concerned? Are all entries typed or in ink except allowances, sizes, and balances?

(2) Are appropriate entries recorded on the 3327's; that is, authorized allowance, sizes, quantity issued, and balance?

(3) Is the "Authorized Allowance" column on the 3327 in agreement with current directives?

(4) Are all issues signed by the individual concerned and all turn-ins signed by the property book officer? Are signatures in ink in the appropriate column at the bottom of the page? Are all unused blocks in such columns lined out?

(5) Is the "Balance" column in agreement with the amount of personal clothing/equipment the individual actually has; are these items serviceable?

(6) If used, are abstracts of issue and turn-in (DA Form 3642) being used properly?

(7) Does the unit commander conduct show-down inspections upon arrival, separation, or transfer of individuals, or at least quarterly?

j. Supply Economy.

(1) Is supply economy stressed in unit meetings; is time allocated for this subject in training schedules?

(2) Are supply economy posters prominently displayed in the unit area?

(3) Do unit personnel exhibit a personal interest in the proper use of supplies and materiel?

k. Small Arms and Arms Room.

(1) Is the unit arms room secured in accordance with the provisions of AR 190-11?

(2) Is the unit commander charged with direct responsibility for small arms on an established hand receipt from the property book officer?

(3) Are weapons assigned on a master assignment chart (nomenclature, weapon serial number, name, Social Security account number, and organization of individual to which assigned)?

(4) Has each individual in the unit been issued a weapon (by serial number) and a bayonet and given a properly prepared weapons card?

(5) Does the charge of quarters conduct a physical count of small arms (to include private weapons secured in the arms room) with the individual from whom he accepts custody of the keys to the arms room? Is this count properly recorded on a weapons register?

(6) Does the unit commander personally conduct a weapons inventory weekly (to include personal weapons)?

(7) Is a system for positive control of keys to the arms room in effect? Is a weapons inventory made and recorded on a weapons register each time the arms room keys change hands?

(8) Are cleaning and preserving materials (patches, oil, cleaning rags, cleaning rods) readily available in the arms room?

(9) Are the prescribed small arms repair parts on hand and properly maintained?

C-7. Morale

a. References: AR 28-52, AR 420-90, AR 600-9, AR 600-30, AR 608-15; appropriate DA pamphlets; FM 22-100.

b. Are all personnel encouraged to attend religious services?

c. Are all personnel encouraged to participate in recreational activities?

d. When transportation is required, is it provided for personnel to attend activities listed in *b* and *c* above?

e. Are personnel on TDY and in the hospital paid on time?

f. Is a unit athletic and recreation program in effect?

g. Are personnel counseled on the advantages of a savings program (US savings bonds, soldier's deposits)?

C-8. Discipline

a. References: AR 27-10, AR 350-30, AR 350-212; Uniform Code of Military Justice (UCMJ).

b. Are uniforms neat and properly maintained?

c. Are uniform regulations observed?

d. Are living quarters kept neat and clean?

e. Is equipment stored in a uniform manner?

f. Do personnel salute correctly when salutes are required?

g. Do personnel report promptly and correctly to inspecting officers?

h. Is nonjudicial punishment properly exercised?

C-9. Sanitation and Hygiene

a. References: AR 40-5; DA Pamphlet 40-2; FM 21-10, FM 21-11.

b. Are accepted standards of personal neatness and cleanliness met?

c. Are field latrines properly constructed and located, and are they adequate?

d. Are garbage pits and other waste disposal facilities in the field adequate, and are they properly located and constructed?

e. Are adequate shower facilities available?

f. Are the facilities listed in c, d, and e above kept clean, sanitary, and well policed?

g. Is a vector control officer appointed?

h. Are hand washing facilities available in latrine and mess areas?

C-10. Standing Operating Procedures (SOP's)

a. References: AR 750-1; FM 55-15, FM 101-5.

b. Does the company have SOP's covering specific operations performed by the unit?

c. Are SOP's followed?

d. Are SOP's current, and are they available to all concerned?

e. Do SOP's conform to those of higher headquarters?

f. Do SOP's simplify the preparation and transmission of orders, promote understanding and teamwork between activities of the unit, and facilitate and expedite operations?

g. Are procedures for the safeguarding of property prescribed, and are they followed?

C-11. Motor Transport Operations

a. References: AR 600-55, AR 710-2, AR 750-5; FM 55-30; TM 21-300, TM 21-305, TM 38-750, TM 55-310.

b. *Driver Records.*

(1) If required, are the following forms and publications present in all vehicles?

(a) Operator Report on Motor Vehicle Accidents, SF 91.

(b) Accident—Identification Card, DD Form 518.

(c) Technical manual pertinent to the vehicle.

(d) Lubrication order pertinent to the vehicle.

(e) Driver's manual.

(2) Do all drivers have a SF 46 (US Government Motor Vehicle Operator's Identification Card), as required by AR 600-55, and are the SF 46's authenticated for the types of vehicles operated?

(3) Are drivers aware of any restrictions entered on their SF 46?

c. *Vehicle Dispatching.*

(1) Is an up-to-date record (vehicle status board) maintained to show the current disposition of all vehicles?

(2) Are data, as required for operational records and reports, maintained on task vehicle tonnages and mileage?

(3) Are daily vehicle availability reports submitted timely and accurately to battalion or other appropriate headquarters?

(4) Are vehicle operators properly briefed before going on commitment and given definite information on to whom or where to report (name of individual and/or proper pinpointed location)?

(5) Are DA Form 2400's (Equipment Utilization Records), properly completed by drivers during and on release from dispatch, and upon return to the unit motor pool?

(6) Are unit administrative vehicles dispatched on a trip basis rather than on a recurring daily dispatch basis?

(7) Does the dispatcher coordinate and consolidate unit administrative dispatch requirements whenever possible?

d. *Vehicle Maintenance and Inspection.*

(1) Do vehicle operators perform before-, during-, and after-operation preventive maintenance services?

(2) Do drivers correct minor deficiencies to the extent possible with available means?

(3) Are adequate time and facilities pro-

vided for operators to perform preventive maintenance?

(4) Where necessary, has a reasonable attempt been made to construct or improve facilities for maintenance?

(5) Are inspection worksheets used in the performance of vehicle maintenance?

(6) Is the DD Form 314 (Preventive Maintenance Schedule and Record), used and maintained properly?

(7) Are inspections performed in accordance with pertinent vehicle TM's?

(8) Is all authorized on equipment materiel (OEM) serviceable, on hand, or on requisition?

(9) Is a motor pool safety program in effect?

(10) Is a driver award program in effect?

(11) Is supply economy stressed in the motor pool?

(12) Are incidents involving vehicle abuse and misuse reported immediately?

C-12. Motor Convoy Operations

Each item listed below should be checked *before* departure time:

- a. Where is the start point? Release point?
- b. What route is to be used?
- c. Has a reconnaissance been made?
- d. Can bridges and defiles safely accommodate all loaded vehicles?
- e. Are critical points known and listed on strip maps?
- f. Has the size of serials been determined?
- g. Has the size of march units been determined?
- h. What will be the rate of march?
- i. What is the vehicle gap on open road? In built-up areas? At halts?
- j. What type of column is to be used?
- k. Have provisions been made for refueling, if required?
- l. Have suitable rest and mess halt areas been selected, if required?
- m. Is a road movement table needed? Prepared? Submitted?

n. Has convoy clearance been obtained?

o. Is an escort required? Has it been requested?

p. Are spare vehicles available for emergencies?

q. Are vehicles fully serviced, clean, and ready for loading?

r. Are drivers properly briefed? By whom? When?

s. Are drivers furnished strip maps?

t. Is convoy marked front and rear of each march unit?

u. Are road guides in place? Have arrangements been made to pick up road guides?

v. Are all vehicle blackout lights functioning?

w. Are maintenance servicing organizations alerted?

x. Is there a maintenance truck or wrecker in the rear of the convoy?

y. Is there a plan for evacuation of disabled vehicles?

z. Are there medical personnel and/or an ambulance in the rear of the convoy?

aa. Is there a plan for the evacuation of possible casualties?

ab. Are all interested parties advised of the estimated time of arrival?

ac. Has the party been instructed in accident investigation procedures?

ad. Is there an entrucking plan? Who is responsible?

ae. Is there a detrucking plan? Who is responsible?

af. Is there a plan for feeding personnel?

ag. Have times been established for entrucking or loading?

ah. Has a time been established for the formation of the convoy?

ai. Has a place been established for the formation of the convoy?

aj. Have times been established for detrucking or unloading?

ak. Has a time been established for releasing vehicles? Who is responsible?

al. Is there a plan, known to all personnel in the convoy, that will be used in case of an attack?

am. Is there a written operations order on hand, if required?

an. Will a convoy commander's report be required? Are the necessary forms on hand?

Section III. TRAINING AND SAFETY

C-13. Training

a. References: AR 350-4, AR 350-13, AR 600-30; FM 21-5, FM 21-6, FM 21-10; appropriate Army training programs, Army training tests, and Army subject schedules; appropriate DA pamphlets.

b. Have a unit training officer and noncommissioned officer been properly appointed?

c. Are unit weekly training schedules properly prepared and promptly posted (at least 1 week in advance)?

d. Does the weekly training schedule conform to the master training schedule?

e. Are adequate references, training aids, and training facilities available to the instructors?

f. Do all personnel receive the required mandatory training?

g. Are instructors provided adequate time to prepare training material and present instructions?

h. Are instructors selected based on their knowledge of subject matter?

i. Is there an alternate schedule for inclement weather?

j. Are training programs continuous, concurrent, and adequate for the company's mission and operations?

k. Are training makeup classes conducted?

l. Are approved lesson outlines either available in the unit or prepared by the instructors?

m. Are individual training records prepared, filed, and properly maintained on each individual in the unit?

n. Are individual training records inspected weekly to assure that personnel are receiving the required training?

o. Are personnel cross-trained?

p. Do personnel receive on-the-job training?

q. Is advantage taken of service school quotas?

r. Are personnel aware of publications and courses available for self-training (United States Armed Forces Institute (USAFI) courses, correspondence courses)?

s. Is training in security, area defense, chemical-biological-nuclear defense, communications security, and electronic counter-countermeasures incorporated in training programs?

t. Does the unit weekly training schedule provide sufficient time for movement between class areas, changes of uniform, and normal breaks?

C-14. Safety

a. References: AR 385-10, AR 385-40; FM 21-6.

b. Is a safety committee established and functioning?

c. Is firefighting equipment available, adequate, and in the proper locations?

d. Are all personnel familiar with the operation of the firefighting equipment?

e. Are dangerous materials properly stored and handled?

f. Are personnel familiar with the safety precautions that are applicable to the equipment they are using and/or to operations they are performing?

g. Has a definite procedure been established for reporting accidents?

h. Is defective equipment reported immediately upon discovery?

i. Is the safety plan current; are all personnel familiar with it?

j. Is a fire plan properly prepared and posted for all facilities?

Section IV. TACTICAL OPERATIONS

C-15. Defense and Security

a. References: AR 220-58, AR 612-2, AR 740-1; FM 7-30, FM 20-32, FM 21-10, FM 21-40, FM 21-41, FM 31-16, FM 31-20, FM 31-21, FM 31-85, FM 33-5, FM 100-5, FM 100-10; TM 55-310.

b. Area Security.

(1) Does the unit have a current defense plan; are all personnel familiar with it?

(2) Is the unit defense plan coordinated with the defense plan of the next higher headquarters?

(3) Does the layout of the company area provide for both internal and external security measures for defense?

(4) Does the defense plan incorporate active and passive defense measures?

(5) Are adequate trenches and foxholes constructed and kept in good repair?

(6) Does the unit defense plan provide for coordination with adjacent units?

(7) Does the unit have a plan for defense while on the march?

c. Rear Area Protection.

(1) Does the unit defense plan provide for measures to be taken before, during, and after an attack or a natural disaster?

(2) Are area damage control squads organized, trained, and equipped; is the equipment complete and in an easily accessible location?

(3) Are natural camouflage and terrain features taken into consideration in the selection of the unit area?

(4) Is camouflage discipline rigidly enforced?

(5) Does the unit defense plan provide for a warning system?

d. Chemical, Biological (CB), and Nuclear Defense.

(1) Are all personnel familiar with the unit's CB-nuclear defense plan?

(2) Have a unit CB-nuclear officer and a noncommissioned officer been appointed; are they familiar with their duties?

(3) Have radiological survey and monitoring teams been organized?

(4) Have provisions been made for evacuating casualties?

(5) Is maximum use made of terrain features to reduce the effect of nuclear attack on unit operational areas?

C-16. Destruction of Supplies and Equipment

a. References: FM 5-25.

b. Does the unit have a plan or standing operating procedure (SOP) for the destruction of supplies and equipment to prevent their capture?

c. Does this plan or SOP provide for a priority of destruction?

d. Are personnel that may become involved in the destruction of materiel trained in the use of explosives?

C-17. Unit Movement

a. References: AR 220-10; FM 55-15, FM 55-30; TM 55-310, TM 55-604.

b. Does the unit have loading plans (motor, rail, air, and water); can these plans be quickly implemented when a movement order is received?

c. Have provisions been made of the phaseout of support operations when a movement order is received?

d. Are all personnel involved in the preparation for and accomplishment of the move familiar with their assigned duties and responsibilities?

e. Does the unit movement plan provide for an advance party, rear party, and other detached parties as required?

Section V. TECHNICAL OPERATIONS

C-18. General

a. References: AR 611-201; FM 22-100; DA Pamphlet 310-series; applicable tables of organization and equipment.

b. Personnel.

(1) Are personnel qualified in the military occupational specialties (MOS's) in which they are serving?

(2) Are key personnel acquainted with the duties and responsibilities of their positions?

(3) Are personnel cross-trained within sections and platoons?

(4) Are personnel in sections and platoons given on-the-job training?

c. Supervision (by Commissioned and Noncommissioned Personnel).

(1) Do supervisory personnel inspect, supervise, and instruct members of their platoons and sections?

(2) Are supervisory personnel thoroughly acquainted with the status of the work being performed in their activities?

(3) Do supervisory personnel know the exact disposition of personnel under their control?

(4) Are supervisory personnel familiar with the use of forms, records, reports, and publications used in their activities?

(5) Do supervisory personnel enforce supply economy?

(6) Are supervisory personnel held responsible for the quality and quantity of work performed in their activities?

d. Administration.

(1) Is a library of technical publications on hand and available to all personnel?

(2) Are adequate records being maintained as required?

(3) Are reports prepared properly and submitted on time?

(4) Are required forms available in all activities?

e. Tools and Equipment.

(1) Do activities have authorized tools and equipment on hand to perform their mission?

(2) Are unserviceable items turned in for replacement?

(3) Are tools and tool sets signed out to individuals; are the sets complete?

(4) Are all tools properly cleaned, accounted for, and stored after each day's work?

(5) Are organic tool sets complete, clean, and properly maintained?

f. Area Selection and Layout.

(1) Do locations of operational areas facilitate both operations and defense?

(2) Have alternate operational areas been selected?

(3) Is the road net in the area adequate?

(4) Are operating areas located as close as possible to supported units?

C-19. Organizational Maintenance

a. References: AR 710-2, AR 750-1, AR 750-5, AR 750-8; SB 700-20; TM 38-750; DA Pamphlet 750-series; applicable equipment TM's.

b. Maintenance Personnel.

(1) Are mechanics and drivers properly licensed?

(2) Do maintenance personnel have an adequate knowledge of maintenance?

(3) Do the personnel know about and properly use maintenance forms, records, and reports?

(4) Are adequate procedures established to assure that quality maintenance is performed by maintenance personnel?

c. Physical Condition of Shop and Equipment.

(1) Are cleanliness and fire prevention measures adequate?

(2) Are there sufficient water outlets in case of fire?

(3) Are lighting and heating adequate?

(4) Are arrangement and organization conducive to good working conditions?

(5) Are adequate shop tools and equipment available?

d. Equipment Logs.

(1) Do logbooks contain appropriate historical records as prescribed by TM 38-750?

(2) Are equipment records complete and up to date?

(3) Do logbooks of vehicles that normally pull trailers contain the DA Form 2409 pertaining to the trailer?

(4) Has the driver/crew kept entries current on daily log?

(5) Has the driver/crew consolidated information from the daily log on to the monthly log?

(6) Are lubrication services being recorded on the daily log correctly?

(7) Does the organization that performs required modifications make the proper entry in the

"Modification Completed" section of the DA Form 2408-5?

(8) Are facilities and controls adequate for the security of equipment logs?

(9) Is the TM that pertains to equipment serviceability criteria (ESC) present in each log-book?

e. DA Form 2401 (Organizational Control Record for Equipment).

(1) Do all columns except "Remarks" contain an entry on each line used?

(2) Does dispatcher's signature, page number, and number of pages appear in the proper spaces of the upper right section of the form?

(3) Does the type of vehicle(s) properly fill the need as indicated under the "Load" column?

(4) Are listed destinations properly restrictive?

(5) Do entries in the "Type of Equipment" column list "M" number of vehicle?

(6) Does the "Remarks" column show if trailer was dispatched with prime mover?

(7) Is DA Form 2401 used for more than 1 day's dispatching where possible?

f. Accident File. Does the dispatcher have a file for DA Form 2401 on vehicles involved in an accident investigation?

g. DD Form 314 (Preventive Maintenance Schedule and Record).

(1) Are proper symbols used?

(2) Are symbols entered in pencil when services are scheduled; traced over in ink after the service has been completed?

(3) Is workload prorated evenly throughout the scheduling period?

(4) Are types of scheduled maintenance services performed within the 10-percent variance limitations (time/mileage)?

h. DA Form 2404 (Equipment Inspection and Maintenance Worksheet).

(1) Are operators/mechanics recording only deficiencies on this form?

(2) Is the appropriate TM number entered and used?

(3) Is there a corrective action shown for all deficiencies listed?

(4) Are all necessary signatures present?

(5) Are timely repairs made when the operator reports a deficiency on the DA Form 2404?

(6) Are appropriate entries for services performed on the DA Form 2404 properly entered in the DA Form 2408-1, (Equipment Daily or Monthly Log), and the DD Form 314 (Preventive Maintenance Schedule and Record)?

i. Repair Parts and Equipment Supply.

(1) References: AR 710-2; SB 700-20.

(2) Is the procedure for requisitioning, receipt, and distribution of repair parts functioning effectively?

(3) Are supply requisitions, DA Form 2765's, properly prepared, processed, and filed?

(4) Are received supply items properly recorded upon receipt?

(5) Are DA Form 3318's (Record of Demands—Title Inserts), completed on every repair part on hand in the supply room?

(6) Is the visible index folder used?

(7) Is the DA Form 3318 properly filled out?

(8) Are stored parts properly identified?

(9) Is DA Form 2765 properly completed and filed on turned in property?

(10) Is Exchange Tag, DA Form 2402, properly completed and used?

(11) General appearance and arrangement of repair parts.

(a) Are bins labeled and numbered?

(b) Are parts protected from dirt, dust, and moisture?

(12) Is excess property on hand?

(13) Are oils, greases, and paints kept in a separate building or area?

(14) Are rags, waste, and similar material kept in metal containers?

(15) Are fire prevention measures adequate?

(16) Are allowances based on actual usage factors?

(17) Are TM's for each type of organic equipment available to the organizational maintenance personnel?

(18) Are all TM's up to date and current changes posted?

APPENDIX D

CHECKLIST, INSPECTION OF PERSONNEL IN RANKS

D-1. Types of Inspection

The most common form of inspection is that of inspecting personnel in ranks. This may be performed informally (by a company officer at a unit formation during the day), or it may be in connection with a formal inspection (annual inspector general or other command type inspection). In any event, it is the appearance of the individual soldier and of his uniform and equipment as prescribed for the formation or inspection which comes under close scrutiny.

D-2. Checklist Items

The following checklist offers a guide for those items to be considered during an inspection in ranks. Depending on the type of inspection, the time allotted, and even the frequency of inspections, the inspecting officer may consider all or may spot check a certain few of the items contained on this checklist. Further, this list may be modified as required to meet local conditions and/or operating regulations.

a. Individual.

- (1) Haircut.
- (2) Shave.
- (3) General appearance (posture, attitude, neatness).

b. Uniform.

- (1) Clean and pressed.
- (2) Proper fit.
 - (a) Size.
 - (b) Trouser and sleeve length.
 - (c) No excessive tailoring.
- (3) Properly maintained (no frayed, worn, or torn spots).
- (4) Cap or hat worn properly.

(5) Shoes.

- (a) Proper fit.
- (b) Shined.
- (c) Maintained (no rundown heels, cracked uppers, torn soles, etc.).

c. Miscellaneous Uniform Items.

- (1) *Brass and insignia.*
 - (a) Worn properly.
 - (b) Polished or properly subdued.
- (2) *Shoulder patches.*
 - (a) Authorized type.
 - (b) Worn properly.
- (3) *Decorations and service ribbons.*
 - (a) Authorized.
 - (b) Positioned properly.
 - (c) Proper order.

d. Weapons (If Applicable).

- (1) Clean.
- (2) Properly oiled.
- (3) Slings properly adjusted.
- (4) Overall condition (worn slings, scratches, rust).
- (5) Weapon presented properly for inspection.

e. Web Gear (If Applicable).

- (1) Clean.
- (2) Proper color.
- (3) Proper belt adjustment and placement of accessories.
- (4) Complete.

Note. At the discretion of the inspecting officer and according to the type of or reason for the inspection, personnel in ranks may be questioned individually regarding their background, duty assignment, knowledge of military matters, current events, or other pertinent matter.



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APPENDIX E

CHECKLIST, INSPECTION OF MOTOR VEHICLES

E-1. General

a. This inspection checklist provides general guidelines for inspecting motor vehicles. For specific data pertaining to a particular type of vehicle, see the technical manual for that vehicle.

b. The vehicle inspection should insure that the equipment being inspected is—

(1) *Properly serviced.* Proper maintenance should have been performed, tires should be inflated to the correct air pressure, the oil and gear lubricants being used must be of the correct weight and grade, and the correct amount must be present in gear cases and the crankcase.

(2) *In good condition.* Vehicle parts should not be twisted, bent, chafed, burned, broken, cracked, dented, or collapsed.

(3) *Secure.* Items that are bolted or riveted to the vehicle should be checked by feel to insure that they are not loose; the transmission or transfer case should be checked with a pry bar; and the wheel bolts, mounting bolts, etc., should be checked with a wrench.

(4) *Not excessively worn.* Excessively worn parts should be replaced.

(5) *Clean.* There should be no accumulation of dirt, mud, snow, sand, etc. Items such as the air cleaner, oil filter, fuel filter, and exposed moving parts should be carefully checked.

(6) *Adequately lubricated.* Equipment should not be overlubricated. All lubrication points should be checked.

(7) *Correctly assembled.* Each component should be in its proper location on the vehicle.

(8) *Correctly adjusted.* All adjustments should be made in accordance with specifications contained in the technical manual for the vehicle.

(9) *Not leaking.* All component units, hoses, etc., should be properly adjusted and tightened and there should be no oil leaks or water seepage.

(1) Hood opens easily (hood release and hinges operate freely).

(2) Clamps and supports in place and tight.

(3) Side panels in good condition.

b. Lights.

(1) All lights burn and operate properly.

(2) All lenses in place, clean, and not cracked or cloudy.

(3) Brush guards in place and not bent or broken.

c. Bumpers.

(1) In place, tight, and not bent or mutilated.

(2) Lifting points in place and operate freely.

d. Vehicle Markings.

(1) Correct vehicle markings.

(2) Properly placed, legible, and not painted over.

e. Frame.

(1) No broken welds.

(2) All mounting bolts in place and tight.

f. Pintle.

(1) Securely mounted.

(2) Opens and closes freely; rotates easily.

(3) Properly lubricated.

g. Tires.

(1) No abnormal wear, cupping, cuts, or bruises.

(2) Correct operating pressure (check before vehicle operation).

(3) Wheel hub nuts and bolts in place and properly tightened.

(4) Valve caps on all valves.

(5) No rocks between dual tires.

E-2. Inspection Criteria

a. Hood.

h. Exhaust System.

- (1) No leaks (exhaust leak areas show a grayish-black discoloration).
- (2) Clamps and supports in place and tight.
- (3) Antipollution systems complete and in proper operation (where applicable).

i. Fuel System.

- (1) No leaks in fuel tank or lines.
- (2) Proper fuel tank filler cap in use.
- (3) Fuel gage operates properly.

j. Windshield Wiper System.

- (1) Wiper motors operate properly.
- (2) Wiper blades return to proper stop position.
- (3) Wiper blades serviceable (not hard, cracked, or worn excessively).
- (4) Windshield clean and serviceable (no cracks, excessive chips, or discoloration).
- (5) Windshield washers operate and are properly filled with fluid (where applicable).

k. Fire Extinguisher.

- (1) Present and properly mounted.
- (2) Fully charged; properly sealed.

l. Battery.

- (1) Electrolyte at proper level.
- (2) Sufficiently charged to start engine.
- (3) Condition of case and terminals (case clean, no cracks; terminals free of corrosion).
- (4) Battery holddown properly positioned and secured.
- (5) Battery cables clean and serviceable.

m. Radiator.

- (1) Proper coolant level.

Warning. Remove radiator cap slowly as cooling system is pressurized.

(2) Radiator core free of leaves, bugs, and other debris.

(3) Radiator hose clamps properly tightened.

(4) No leaks in cooling system.

(5) Fan belt properly adjusted and serviceable (not cracked, worn, or frayed).

(6) Radiator brush guard securely mounted; not damaged.

n. Miscellaneous Inspection Items. Other general points to be inspected to determine the serviceability of a vehicle are as follows:

(1) Clutch pedal has approximately 1 inch of free pedal travel.

(2) Brake pedal has proper free pedal travel (see vehicle TM for proper specification).

(3) Parking brake lever operates freely (see vehicle TM for proper adjustment).

(4) All gages and indicators on instrument panel operate properly (check with motor running).

(5) Crankcase oil level is at proper level (check when engine is cold or not running).

(6) Oil filter cap is clean and fits filler spout snugly.

(7) Ignition wiring insulation not cracked or frayed.

(8) All vehicle tools on hand and in serviceable condition.

(9) Tarp and end curtains installed properly; not torn or dirty. No frayed, broken, or missing ropes or straps; tiedown hooks not bent, broken, or missing.

(10) Steering wheel play is within 2-inch limits (check with front wheels in straightahead position).

APPENDIX F

CHECKLIST, INSPECTION OF TRAILERS

F-1. General

This inspection checklist provides general guidelines for inspecting trailers. For specific data pertaining to a particular type of trailer, see the technical manual for that trailer.

F-2. Inspection Criteria

a. Trailer Body.

(1) Securely mounted on frame; all mounting bolts present and properly secured.

(2) Metal bodies.

(a) Free of dents, cracks, and rusty areas; no warping.

(b) Tailgate securely mounted, operates freely, fits tailgate opening properly. Tailgate fasteners and chains are in place and serviceable.

(3) Wood bodies.

(a) No cracked, broken, or excessively worn flooring; no warping.

(b) Sideboards in place and in good condition.

b. Tarpaulins and Bows.

(1) Bows and racks are smooth and free of splinters.

(2) Bows and racks serviceable and securely mounted.

Note. Bolts in racks and bows should be installed with boltheads out to prevent damage to canvas.

(3) All tarps and end curtains are on hand and in serviceable condition.

(4) Canvas is mounted correctly (not inside out).

(5) No frayed, broken, or missing ropes or straps; tiedown hooks not bent, broken, or missing.

c. Trailer Chassis.

(1) No cracks, breaks, or broken welds.

(2) Frame not sprung.

(3) The lunette or kingpin is properly mounted, secure, clean, and lubricated.

(4) Data plates and decals (when used) are secure, clean, and legible.

d. Tires.

(1) Proper inflation.

(2) Sufficient tread; no cuts, bruises, or breaks.

(3) No evidence of unusual wear.

(4) No rocks between duals.

(5) Valve caps in place; valve stems serviceable.

e. Electrical System and Reflectors.

(1) All lights mounted securely and in operating condition.

(2) No worn or frayed wires.

(3) Lenses not cracked or discolored.

(4) Plug receptacle has cap and gasket; spring lid fits properly.

(5) Plug receptacle contacts serviceable and free of dirt and corrosion.

(6) All reflectors in place; lens not cracked, missing, or painted over.

f. Brake System.

(1) Air coupling seal is serviceable; dummy coupling, with chain, is present.

(2) Coupling should attach easily; no air leak when attached.

(3) Air cylinder on trailer (when applicable) is securely mounted and operates freely.

(4) Cylinder boot not torn or loose in mounting.

(5) Air lines free of water (air filter clean).

(6) Proper fluid level in master cylinder reservoir (see appropriate TM for specifications).

(7) Handbrake adjusted and operates properly.



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APPENDIX G

SMALL UNIT AND DRIVER TRAINING

G-1. Basis of Training

Normally assigned missions, probable operational environments, and assigned task vehicles serve as the basis of training for motor transport units and personnel. Units are assigned and equipped to perform specific transportation functions in general areas of a theater of operations. In the communications zone (COMMZ), the motor transport intersectional service normally requires the most economical long haul equipment. High speed tractor-trailer combinations are best suited for this purpose when a good highway network exists. Local motor transport services may use lighter equipment of smaller capacity; however, when operating conditions permit, economy of personnel and equipment may be gained through the use of the larger semitrailer combinations in place of the smaller 2 1/2- and 5-ton trucks for local operations. In the combat zone, assigned task vehicles must meet increasingly difficult conditions as the support approaches the forward areas. General support units must have an emergency offroad capability. Though offroad operation may not be considered normal for these units, detours with poor trafficability may be used for long periods without improvement. Direct support units must have adequate capability for extended offroad operations under the most unfavorable operational conditions. Training requirements and operational techniques differ therefore to meet several general types of motor transport operations: highway operations with a limited offroad requirement, and highway operations with the probability of extended offroad operation or cross-country operations using roads and trails when possible.

G-2. Limited Offroad Operations

The preparation of units and their assigned operating personnel for motor transport operations in the COMMZ includes not only training in the operation and maintenance of vehicles under favorable conditions but also training to meet the most adverse conditions. Such units are normally equipped with task vehicles of limited offroad ca-

pability. Selection of equipment is dictated by the requirement for speed, economy, and high tonnage capacity. Prolonged operation of these vehicles under adverse conditions is unusual. Minor delays and inconveniences, however, are normal. The objective of all training to meet these conditions is to minimize their effect on the motor transport mission. Adverse conditions for COMMZ units include the effects of mountainous terrain, poorly constructed or poorly maintained roads, climatic and weather conditions, and also any effects of combat requiring offroad operation beyond the normal capabilities of organic vehicles.

a. Highway Operation. Drivers completing their advanced driving training under a comprehensive and well-supervised driver training program (TM 21-300) should be capable of meeting all highway conditions effectively. The driver's manual (TM 21-305) covers driving techniques and precautions for operating under most conditions. Unit training should, in addition, prepare planning and supervisory personnel for the necessary adjustments in loading, scheduling, and selection of routes. Early phases of this training should include acclimatization and familiarization with the operational area.

b. Terrain Evaluation and Route Selection. Every driver should be trained to evaluate terrain in relation to the capabilities of his assigned vehicle. The driver of a truck-tractor semitrailer combination may never be required to move his vehicle off the pavement. Nevertheless, he should receive training in negotiating rough detours and bypasses and in selecting passable offroad routes. This training may mean the difference between success and failure in the performance of his mission. This additional driver training in terrain evaluation and route selection should include the recognition of common landforms, familiarity with soil condition indicators, and a knowledge of the effects of weather on offroad trafficability. Continuous and directed training in the recognition of the relations between landforms, soil, drainage, and easily identified types of vegetation

is essential to develop effective driver terrain evaluation. This training must emphasize the importance of following up preliminary route selections with dismounted reconnaissance to check the actual grades and the soil observation. His knowledge, experience, and observations will speed his decisions in meeting emergencies and enable him to properly perform his mission.

c. Field Expedients and Vehicle Recovery. Units equipped with vehicles which can normally operate only on roads often require the prompt and efficient use of field expedients and improvised vehicle recovery techniques to move offroad for even limited distances. Under conditions of modern war, the training of drivers and supervisory personnel of such units for this aspect of vehicle operation is often vital. Field expedients and improvised vehicle recovery operations depend on effective use of the materials and equipment on hand and on the ingenuity of personnel in combining principles, materials, and equipment to get the job done. Training in the principles of mechanical advantage and in the application of these principles using the equipment provided with the vehicle and other easily obtained items should always stress the possibilities of substitution and improvisation. Additional information is provided in FM 20-22.

G-3. Extended Offroad Operation

Transportation units operating in and between the field army area and divisional units perform a higher percentage of offroad operations than units in the COMMZ. Enemy interference, both direct and indirect, must be expected. Highways may be nonexistent, destroyed, or denied to use. Training for operations of this kind must stress the techniques of cross-country driving as soon as the driver has become reasonably familiar with his vehicle. Individual and unit training should include off-route reconnaissance and route selection, route improvement, control and communications procedures, and driver responsibilities.

a. Route Reconnaissance and Route Selection. The selection of supply routes for general support operations must be based on an evaluation of the operational environment. It may be assumed that enemy interference can be expected at any well-defined critical point, that priority will be given the most highly developed routes, and that supply operations may be subject to direct enemy observation. With these assumptions in mind, tentative route selections may be made from a thorough study of maps and air photos. Critical

points and areas on the tentative routes may then be determined and plans made for bypassing them. When time permits, a route reconnaissance party should be sent over the route prior to dispatching the first cargo vehicle. This party can make necessary adjustments to insure continued movement and can also mark the route where necessary. Emergency detours of the less critical areas may also be reconnoitered to reduce delays in rerouting.

b. Route Improvement. In many cases improvement of the route will be necessary to cross areas of extremely low trafficability. While such areas are normally avoided in route selection, it may be advantageous because of cover and concealment to expend time and effort in improvement rather than to expose vehicles to enemy observation and fire. Training personnel in the use of pioneer equipment and in the preparation of reinforced roadbeds is advisable since engineer troops and equipment may not be available for these projects. Training should emphasize basic principles and proper use of the equipment provided, as well as the need for improvisation. Variations of the corduroy road, designed to distribute wheel loadings over greater areas, may be made of brush and saplings (corduroy fascine) or of bamboo. Other local materials that are readily available should also be used. In northern climates, even snow and ice may improve movement through barely trafficable areas.

c. Driver Responsibilities. Training of the individual driver for general support motor transport operations must prepare him to assume greater responsibility than is required in more routine operations. As the forward areas of the combat zone are approached and offroad operation becomes more common, problems of control and communication force the motor transport commander to rely more and more on the training, skill, and judgment of his drivers. The wide dispersion of highly mobile units requires the delivery of supplies and equipment in comparatively small quantities to many destinations. Resupply vehicles may be dispatched singly or in small groups over routes that may include roads, trails, and cross-country operation. Both the driver and his assistant must therefore be well trained in all phases of operation. They must know their assigned vehicle—its operation and maintenance, capabilities, and limitations. They must also have a *working* knowledge of terrain, weather, and combat conditions as they affect the accomplishment of the assigned mission. Both

must be able to read and interpret maps and air photos and must be trained in land navigation. Drivers and their assistants should be briefed before they are dispatched individually or in small groups. This briefing should definitely locate their destination, prescribe routes to and from the destination (if practicable), point out critical points or areas, show emergency detours, and specify measures of control. Unit standing operating procedures should include defense measures and procedures for reporting enemy activity, and drivers and assistants should also be instructed on these points. It must be emphasized to the driver that, when he is individually dispatched, he is responsible for following the prescribed route, making emergency adjustments as required by the situation, and staying within the limits of the prescribed schedule.

G-4. Blackout Driving

a. Drivers should be thoroughly trained in blackout driving procedures. Instructions should include such subjects as judging distance by blackout marker lights, how and when to use blackout driving and marker lights, how to prepare for and maintain driver night vision, blackout driving procedures for individual vehicles and in convoy, and the use of infrared or other blackout driving devices and aids.

b. The blackout driving light and blackout marker lights are designed to be visible by other drivers or personnel on the road but are not visible from the air; their use is governed by local directives and light restrictions.

(1) The blackout driving light provides a limited, shaded illumination of the roadway.

(2) The blackout marker lights offer no illumination; instead they are provided to both alert other drivers or personnel on the road of traffic, and to indicate approximately how far a vehicle is away. In convoy operations these lights permit drivers to follow preceding vehicles and maintain the proper gap between vehicles.

(a) The rear blackout marker lights are designed so that at a distance of 180 or more feet (approximately 54 meters) each appears as a single light, at a distance of 60 to 80 feet (approximately 18 to 24 meters) each appears as two lights, and at a distance of less than 60 feet (18 meters) each appears as four lights.

(b) The front blackout marker lights are designed so that at a distance of 60 feet (18 meters) or more each appears as a single light, and at a distance of less than 60 feet (less than 18 meters) each appears as two lights.



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APPENDIX H

EMPLOYMENT OF NON-AIR-DEFENSE WEAPONS AGAINST HOSTILE AIRCRAFT

H-1. General

Commanders at all levels must recognize that not only do the vehicles, equipment, and operational facilities of the transportation motor transport service offer favorable targets for hostile aircraft, but also that there exists the threat of air-mobile operations, enemy close air support, interdiction, and reconnaissance against any unit in a theater of operations. They must further recognize the potential effect of the large volume of small arms fire that can be furnished by organic weapons against low slow-flying hostile aircraft and the fact that the low altitude air threat faced by units in a combat theater may be partially countered by aggressive use of the large volume of fire which non-air-defense weapons can place against this threat.

a. Exercise of the individual and collective right of self-defense against hostile aircraft, which include all attacking aircraft and those positively identified enemy aircraft which pose a threat to the unit, will be emphasized. Exercise of this right does not demand specialized use of communications and is independent of theater air defense rules for engagement and air defense control procedures.

b. Indiscriminate use of non-air-defense weapons must be prevented because of the resulting danger to friendly aircraft and troops and the requirement to place in proper perspective the technique of withholding fire to preclude disclosure of positions.

c. Situations may arise wherein the exercise of the right of self-defense should be temporarily suppressed or when the freer use of non-air-defense weapons against hostile aircraft should be encouraged. The former case involves a local decision that prevention of position disclosure is paramount; notice of such restriction is disseminated through command channels. The latter case should be based on a theater-level decision.

d. Use of a single rule for engagement—"Engage hostile aircraft"—is based on commonsense interpretation of the rule. For example, all aircraft attacking a unit and enemy aircraft performing operations such as forward air control, reconnaissance, surveillance, or dropping or landing troops are clearly hostile aircraft.

H-2. Rule for Engagement

In the absence of orders to the contrary, individual weapon operators will engage attacking aircraft. Engagement of all other hostile aircraft will be on orders issued through the unit chain of command and will be supervised by unit leaders. Nothing in this rule is to be interpreted as requiring actions prejudicial to accomplishment of the primary mission of the unit.

H-3. Aircraft Categories

To simplify engagement procedures, aircraft may be considered in two categories:

a. Low Slow-Speed Aircraft. This category includes helicopters and liaison, reconnaissance, and observation fixed-wing propeller aircraft.

b. High-Speed Aircraft. This category includes all other propeller aircraft and all jet fixed-wing aircraft.

H-4. Techniques of Fire

The following techniques will maximize the destructive and/or deterrent effect against aircraft:

a. Engagement of Low Slow-Speed Aircraft. In accordance with the rule for engagement, engage low slow-speed enemy aircraft with aimed fire, employing the maximum weapon rate of fire. Aerial gunnery techniques (less lead) generally applicable to all small arms and automatic weapons are contained in FM 23-65.

b. Engagement of High-Speed Aircraft. In accordance with the rule for engagement, engage

high-speed enemy aircraft with maximum fire aimed well in front of the aircraft and above its flight path to force it to fly through a pattern of fire. This technique is not unaimed barrage fire; it does require a degree of aimed fire but does not call for careful estimation of aircraft speed and required lead.

c. Use of Tracer Ammunition. Automatic weapons should use the highest practical proportion of tracer ammunition to enhance the deterrent or disruptive effect of the fire.

d. Massed Fire. Units should employ a massed fire technique when using small arms and automatic weapons in an air defense role.

H-5. Preparation of Standing Operating Procedures (SOP's)

Command and supervisory headquarters will prepare detailed SOP's for the identification and the engagement of aircraft, to include how identification is accomplished, weapons to be employed, techniques of fire to be used, rule for engagement, and controls to be used. Company level SOP will include, but is not limited to, the following:

a. Applicability. Operators of designated weapons.

b. Relation to Primary Mission. Primary mission is never prejudiced.

c. Relation to Passive Air Defense. The necessity for aggressively engaging hostile aircraft is balanced against the requirement to place in proper perspective the tactic of withholding fire to preclude disclosure of position.

d. Authority to Engage. Authority to engage attacking aircraft delegated to individual weapon operators, and to engage all other hostile aircraft on orders through unit chain of command, subject to the rule for engagement and rules for withholding fire.

e. Rule for Engagement. Normally self-defense only against all attacking aircraft and those positively identified aircraft which pose a threat to the unit.

f. Rules for Withholding Fire. When ordered; when not positive that aircraft are actually attacking or otherwise hostile; when friendly aircraft or troops are endangered.

g. Position Selection. See FM 44-1. Applicable only to weapons specifically assigned an air-defense role; for example, designated single barrel, caliber .50 machineguns.

h. Firing Techniques. Lead and superelevation; massed fire; maximum rate of fire; maximum use of tracer ammunition.

i. Unit Training Requirements. Motivation and discipline; gunnery; aircraft recognition.

H-6. Training

Individual training will stress aircraft recognition, techniques of firing at aerial targets, and response to control methods. Application of employment of non-air-defense weapons against hostile aircraft will be incorporated into unit training phase, field problems, maneuvers, and other training media.

APPENDIX I

DEMOLITION OF VEHICLES

I-1. General

When necessary to prevent the enemy from using or salvaging automotive equipment, commanders should destroy or damage beyond repair all parts essential to the operation of a vehicle, including essential spare parts. Appropriate safety precautions will be observed during demolition procedures.

I-2. Methods of Destruction

Some of the methods of destroying vehicles include the following:

a. Smashing. Use sledges, axes, handaxes, pickaxes, hammers, crowbars, or heavy tools.

b. Cutting. Use axes, handaxes, machetes, or bayonets.

c. Burning. Use gasoline, kerosene, oil, flame throwers, or incendiaries.

d. Explosives. Use firearms, grenades, or other explosives.

e. Disposal. Bury parts in slit trenches, fox-holes, or other holes. Throw in streams or bodies of water. Scatter.

I-3. Manner of Destroying

Three methods of destroying vehicles are outlined below in the order of their effectiveness. Whichever is used, the sequence outlined will be followed to assure uniformity of destruction among a group of similar vehicles.

a. Method No. 1.

(1) Using an ax, pick, sledge, or any other heavy object, smash all vital elements, such as distributor, carburetor, air cleaner, radiator, generator, ignition coil, fuel pump, spark plugs, lights, instruments, and controls. If time permits and a sufficiently heavy object is available, smash the engine cylinder block and head, crankcase, transmission, and axles. Deflate and slash and destroy tires.

(2) Puncture fuel tanks. Remove and empty or dispose of fire extinguishers.

(3) Pour gasoline or oil over entire vehicle and ignite.

b. Method No. 2.

(1) Puncture fuel tanks. Remove and empty or dispose of fire extinguishers.

(2) Use tanks, artillery, antitank rockets, or grenades to fire on the vehicle. Aim at the engine compartment, axles, and wheels. If a good fire is started, the vehicle may be considered to be destroyed.

c. Method No. 3.

(1) Prepare charges of explosive with a non-electric blasting cap and appropriate length of safety fuse for each charge. Place one charge on the transmission and one as low as possible on either side of the engine. The second charge is placed to ensure destruction of the engine block and crankcase.

Caution. If charges are prepared beforehand and carried in the vehicle, keep the blasting caps and safety fuses separated from the charges until they are to be used.

(2) Ignite the charges and take cover. The danger zone is approximately 200 yards. The fuse will burn approximately 1 minute for each 2 feet of fuse.

I-4. Pneumatic Tires

Pneumatic tires, including the spare, must be destroyed, even if time will not permit destruction of any other part of the vehicle. The following methods may be used:

a. Incendiary grenades may be employed to destroy tires. Ignite one grenade under each tire. When this method is combined with the destruction of the vehicle by other explosives, the incendiary fires must be well started before the charge is detonated.

b. An ax, a pick, or gunfire may be used to damage tires. They should be deflated and valves should be destroyed. Gasoline may be poured on slashed or punctured tires and ignited to provide for complete tire destruction.



APPENDIX J

OPERATIONAL SECURITY

J-1. General

Successful enemy exploitation of friendly stereotyped patterns of activity and associated communications have been detected in past operational security surveys. Examples of specific sources of information or indication of activities identified by prior operational security surveys are set forth in this appendix.

J-2. Operational Indicators

a. Stereotyped patterns of reconnaissance activity.

b. Stereotyped patterns of attack (ingress and egress) against specific types of targets or targets in a particular location.

c. Stereotyped times of preparatory air strikes and artillery fire in relation to the attack by ground or amphibious forces.

d. Stereotyped sequences of events comprising the various phases of an operation.

e. Coordination with civil agencies which do not have proper safeguards for classified information; for example, air traffic control procedures, coordination of convoy movement, etc.

J-3. Sources of Information for Human Intelligence Collectors

a. Subverted allied military or indigenous civilian personnel.

b. Public information releases.

c. Posting of operations orders, flight plans, schedules, etc., in insecure areas.

d. Distinctive emblems or paintings on vehicles and aircraft.

e. Identification of recipients of supplies being shipped to support an operation along with operation nicknames, delivery deadlines, etc.

f. Logistic buildups and prepositioning of supporting materials and facilities.

g. Special religious services just prior to operations.

J-4. Sources of Information from Communications Activities

a. Plain language communications covering an entire spectrum of activity associated with planning and preexecution phases of operations.

b. Use of unchanging or infrequently changing call signs and/or call sign suffixes by combat elements and those supporting elements which are active only when an operation is imminent.

c. Stereotyped message characteristics such as precedence, addressee patterns, message lengths, codes, or cryptosystems which are unique to preoperations activity.

d. Use of unchanging frequencies and repetitive use of specific frequencies in given operations areas.

e. Movement and/or checkout of communications equipment in operations area prior to commencement of operations.

f. Significant increases and/or decreases in the volume of enciphered communications (not protected by traffic flow security feature).

g. Transmission at times when communications are not normally active.

h. Use of unauthorized codes; that is, homemade.

i. Use of brevity codes in the belief that they provide security.

j. Use of authorized codes which provide only 24, 48, or 72 hours protection for encoding information of longer term security.



APPENDIX K

DRIVER HINTS—CONVOY OPERATIONS

K-1. General

Driving in convoy requires that a vehicle operator be alert at all times, exercise safe driving habits, and maintain his proper position and speed. Any tendency for drivers to become lax in habits and develop a "just-follow-the-vehicle-ahead" attitude must be avoided.

K-2. Operational Hints

The following hints are offered for vehicle operators engaged in convoy operations. The convoy commander should through his preconvoy operations briefing and observation by himself and other control personnel during the convoy operation, ensure that drivers are aware of and comply with these instructions:

a. Start engine on the proper signal; keep alert for the command to move out.

b. On signal, move out promptly, regulating vehicle speed to gain the proper vehicle gap as the normal operating speed is reached.

c. Keep in the proper traffic lane unless required to give way to or pass other traffic.

d. Maintain an even driving pace, increasing and decreasing speed gradually. Do not speed unnecessarily to catch up; do not lag behind.

e. Maintain proper vehicle gap as speed increases or decreases. Do not get too close; do not carelessly lose the vehicle ahead.

f. Keep alert and watch the vehicle ahead for changes in direction, traffic hazards, hand signals, etc.

g. Pass on the appropriate signals passed back along the column and observe them at the proper time for changing direction, slowing down, or stopping.

h. Use horn only when necessary.

i. Keep position in the convoy unless ordered or signaled to pass other vehicles or elements.

j. Shift into proper gear on hills or slow stretches of road; never coast down hills with the clutch disengaged or transmission in neutral; use same gear that would be used to ascend the hill.

k. Obey traffic signals and signs except as otherwise instructed; for example, when the way has been cleared by traffic personnel for the column to pass through traffic signals at intersections.

l. If a vehicle becomes disabled, move it to the side of the road and signal the following vehicles to pass; be prepared to inform maintenance personnel of the trouble.

m. At halt, move as far as possible off the road or to the right side of the roadway.

n. Stop engine on proper signal or if vehicle is to stand longer than a few minutes.

o. After the column halts, wait for the command before dismounting; when hauling troops, dismount on proper order and open tailgate for the troops.

p. When dismounted, keep to the offroad side of the vehicles and off the traveled part of the road except as required to service the vehicle.

q. Perform the prescribed inspection and maintenance functions during operation and at halt, giving special attention to items which might be taken for granted such as checking to assure a sufficient fuel supply for the remainder of the move.

r. Be alert for the signal to remount and resume march.

w. Under blackout or other conditions requiring security, conform strictly to all restrictions.



APPENDIX L

CONVOY COMMANDER'S CHECKLIST

L-1. General

a. The use of a checklist by a convoy commander will aid in the proper and efficient organization and operation of a convoy movement and assure the convoy commander that no administrative or operational details are overlooked.

b. The suggested outline offered herein may be adapted, added to, or resequenced to meet the needs of any particular situation or the desires of the commander.

L-2. Suggested Outline**CONVOY COMMANDER'S CHECKLIST**

START POINT	_____
RELEASE POINT	_____
ROUTE	_____
ETA	_____

CHECKLIST ITEMS**REMARKS**

1. Reconnaissance
2. Convoy organization
 - a. Size of serials/march units
 - b. Type of column
 - c. Rate of march
 - (1) Pace
 - (2) Passing/regaining position
 - d. Operating gaps
 - (1) Serials/march units
 - (2) Vehicles
 - (a) Open road
 - (b) Towns and cities
 - (c) At halt
 - e. Convoy clearance
 - (1) Number
 - (2) Data
 - f. Vehicle markings
3. Rest and mess halts
 - a. Time and duration
 - b. Mess arrangements
4. Refueling
5. Loading/entrucking
 - a. Time and place
 - b. Report to

<i>CHECKLIST ITEMS</i>	<i>REMARKS</i>
c. Type/class cargo d. Outsize loads	
6. Unloading/detrucking	
a. Time and place b. Report to	
7. Driver briefing	
a. Responsibility b. Time and place c. Strip maps or other route aids	
8. Vehicles	
a. Serviced b. Inspected c. Accident/breakdown procedures	
9. Cargo	
a. Properly loaded and secured b. Protected from weather	
10. Security measures	
a. En route b. At halt	
11. Trail	
a. Maintenance b. Wrecker c. Medical support d. Trail officer	
12. Guides	
a. Position b. Posting and pickup	
13. Use of lights	
a. During operation b. Blackout restriction	
14. Release of trucks	
a. Time b. Responsibility	
15. Debriefing	
a. Convoy commander's report b. Other reports or information required	

APPENDIX M

METHODS OF EN ROUTE REFUELING OF CONVOYS

M-1. General

Convoy vehicles may be refueled in a number of ways, including the use of—

a. Equipment available within the unit making the move (that is, 5-gallon containers, fuel-dispensing vehicles).

b. Petroleum, oil, and lubricant (POL) facilities established by service support units (that is, stocks of POL in 5-gallon containers, fuel dispensing vehicles, semipermanent or permanent service-station type facilities).

c. Facilities available within other motor transport units (that is, the use, coordinated by battalion or the appropriate movements office, of the POL facilities of one truck company, located on or near a convoy route, by another truck unit engaged in a convoy operation).

M-2. Methods of Refueling

a. Filled 5-Gallon Containers Carried by the Convoy. This is one of the most commonly practiced methods and provides for quick and easy refueling of convoy vehicles.

(1) If the move is to be of not too great a distance, a supplemental fuel supply in filled 5-gallon containers (jerricans) may be issued to and carried on individual vehicles of the convoy. Then at a prescribed halt, operators refuel their vehicles from these containers.

(2) If sufficient fuel in 5-gallon containers cannot be carried by individual vehicles of the convoy, additional containers may be transported in one or more vehicles with the trail element. At the prescribed refueling halt, this vehicle proceeds to the head of the convoy, dropping off additional filled containers as required at each vehicle. On the return trip of the vehicle to its position with the trail element, empty containers are picked up. Depending on the size of the convoy, this procedure may be adapted to permit refueling by elements (serials, march units) within the convoy by placing a POL vehicle with each element.

b. Use of Organic Fuel Dispensing Vehicles.

In this method, unit tankers either accompany the convoy or travel independently of the convoy to set up a refueling point.

(1) When traveling with the convoy, the tanker may be employed in several ways—

(a) At the prescribed halt, the tanker moves from its normal position with the trail element and either proceeds toward the head of the column refueling each vehicle on its way or proceeds directly to the head and refuels each vehicle on its way back to the trail.

(b) At the prescribed halt, the tanker proceeds to a suitable site near the head of the convoy, preferably off the road, and the convoy vehicles proceed individually to the tanker and are refueled.

(2) When traveling independently of the convoy the tanker proceeds to a prescribed location and then, upon arrival of the convoy, refuels in either of the ways indicated in (1) above.

c. Use of POL Facilities Established by Service Support Units. Convoys using POL facilities of this nature will be governed by directives and regulations published by the supporting service and will comply with all instructions and safety procedures concerning the dispensing of fuel at these facilities.

(1) If 5-gallon containers are used, drivers may be required to park in one area and pick up containers of fuel from a central storage location and then after refueling return their empties. Or they may be permitted to drive into the storage area for refueling. If only bulk issue of containers is made, the convoy POL truck will pick up the necessary containers and, after refueling the convoy, return the empties to a designated point.

(2) When fuel dispensing tankers are used, they are normally set up in offroad areas. Traffic to and from the tankers is controlled to prevent congestion and accidents. In rare cases, convoys may be required to halt along a road while tankers move along the column and refuel vehicles.

(3) Service-station type facilities which may consist of converted commercial facilities, gas dispensing units supplied from tanks or storage bladders, or even taps off of a military pipeline may be employed. There may or may not be sufficient parking area in the vicinity of such facilities to permit the convoy vehicles to halt as a group; instead, the convoy may have to halt at a distance and dispatch vehicles individually or in small groups for refueling.

d. Use of Facilities Available Within Other Motor Transport Units. This is a commonly used method whereby motor transport companies of a battalion or group provide mutual support to

each other in the performance of their assigned transport tasks. Needs of a unit are coordinated by the battalion or higher headquarters for support to be provided within the organization. In the case of support being provided by a unit not a member of the battalion or group (as with POL support being provided by an engineer unit) coordination may be accomplished through movements control channels. Coordination is required, first, to determine the unit which will provide POL support and, secondly, to ensure that sufficient fuel will be available at that unit for distribution to the convoy. The method of refueling will be governed by the facilities available in the unit providing such mutual POL support.

APPENDIX N

CONVOY COMMANDER'S REPORT

N-1. General

The convoy commander's report provides detailed information on convoy operations from which operational data may be obtained for both reporting purposes and provision of experience data for use in future plans. It is submitted after the completion of a convoy operation but, because of the information recorded, it requires that the convoy commander maintain the report as an operation progresses.

N-2. Format

The format of the convoy commander's report, as presented herein, provides for the minimum operational data required, and is offered for guidance only; it may be modified to suit the requirements of any given situation. For instance, this report provides no information on security forces which may accompany a convoy. In instances where such action is required, additional information requirements covering escort and/or security forces and measures may be inserted into this format.

N-3. Outline of Report

CONVOY COMMANDER'S REPORT

Headquarters Battalion (Truck)	Transportation Company, Light
Appropriate Headquarters (Battalion)	Unit designation
16-USA-09	22 January 1971
Convoy clearance number	Date
50 2½-ton trucks	
Number and type of task vehicles	
Five ¼-ton; one 10-ton wrecker	
Control vehicles	

I. FORWARD MOVEMENT

1. Convoy Operating Time

a. Arrive start point		0600
b. Arrive load point		0700
c. Depart load point		0800
d. Loading time (c minus b)		1 hr
e. Arrive highway regulation point		
(HRP(s))	No. 1	0915
(list as needed)	No. 2	1100
f. Depart (clear) HRP(s)	No. 1	0930
(list as needed)	No. 2	1115
g. Arrive unload point		1200

- | | |
|-------------------------------------|--------------------|
| h. Depart unload point | <u>1330</u> |
| i. Time at unload point (h minus g) | <u>1 hr 30 min</u> |
2. *Cargo/Personnel*
- | | |
|--------------------------------|-------------------|
| a. Cargo (short tons (STON's)) | <u>200</u> |
| b. Class/type | <u>Ammunition</u> |
| c. Number of personnel | <u>0</u> |
3. *Distances (Speedometer Reading, Lead Vehicles)*
- | | |
|--|-------------|
| a. Start point | <u>7175</u> |
| b. Loading point | <u>7190</u> |
| c. Forward mileage (no load) (b minus a) | <u>15</u> |
| d. Unload point | <u>7265</u> |
| e. Forward mileage (loaded) (load point to unload point) | <u>75</u> |
4. *REMARKS*
- (Include such data as location of start point, route conditions en route, delays encountered and reasons therefor, and such other operational information as deemed appropriate; for example, start point, company area.)

II. RETURN MOVEMENT

1. *Convoy Operating Time*
- | | |
|---------------------------------|---------------|
| a. Arrive return load point | <u>1330</u> |
| b. Depart return load point | <u>1400</u> |
| c. Return load time (b minus a) | <u>30 min</u> |
| d. Arrive HRP(s) No. 1 | <u>1445</u> |
| (list as needed) No. 2 | <u>1630</u> |
| e. Depart (clear) HRP(s) No. 1 | <u>1500</u> |
| (list as needed) No. 2 | <u>1645</u> |
| f. Arrive unload point | <u>1800</u> |
| g. Depart unload point | <u>1815</u> |
| h. Time at unload point | <u>15 min</u> |
| i. Arrive unit area | <u>1915</u> |
2. *Cargo/Personnel*
- | | |
|------------------------|--------------------------|
| a. Cargo (STON's) | <u>*30 (10 vehicles)</u> |
| b. Class/type | <u>Salvage brass</u> |
| c. Number of personnel | <u>0</u> |
3. *Distances (Speedometer Reading, Lead Vehicle)*
- | | |
|--|---------------|
| a. Unload point (forward movement) | <u>7265</u> |
| b. Return load point | <u>**7265</u> |
| c. Return mileage (no load) (b minus a) | <u>0</u> |
| d. Return load destination (release point) | <u>7340</u> |
| e. Return mileage (loaded) | <u>75</u> |
| f. Arrive unit area | <u>7355</u> |
| g. Return mileage (no load) (f minus d) | <u>15</u> |

4. *Remarks*

Include any operational remarks such as explanation for asterisks as follows: *10 vehicles with return load; 40 vehicles returned empty.

**Picked up return load at same place that forward load was unloaded.

III. ROUND TRIP DATA

1. *Convoy Operating Time*

a. Start point time (forward movement)	0600
b. Returned to start point (return movement)	1915
c. Total dispatch hours	13 hr 15 min
d. Deadhead hours (unit to load area; unload area to unit)	2 hr
e. Total load hours	1 hr 30 min
f. Total unload hours	1 hr 45 min
g. Total operational hours	8 hr

2. *Cargo/Personnel*

a. Forward tons/class	200/ammunition
b. Return tons/class	10/salvage
c. Personnel forward	0
d. Personnel return	0

3. *Distance in Miles*

a. Unit to forward load area	15
b. Forward load area to destination	75
c. Destination to return load area	0
d. Return load area to destination	75
e. Return unload area to unit	15
f. Deadhead total	30
g. Operational total	180

4. *Remarks*

Include operational remarks as deemed appropriate to include passenger and/or ton miles; average rate of march, etc.



1
2
3
4



1
2
3
4



APPENDIX O

CONVOY OPERATIONS

AMBUSH PROCEDURES AND COUNTERMEASURES

Note. The following summarizes a report based on field experiences.

O-1. General

a. The successful combat commander is one who has trained himself to anticipate the "unexpected" from the enemy. Moreover, the enemy must always be given credit for his ability to act or react in a way most favorable to himself. Therefore, it is especially important that planning for convoy operations include measures to meet the unexpected. Since convoy ambushes allow the enemy to choose the time, place, and method of attack, the odds weigh heavily in his favor unless measures are provided to take aggressive countermeasures and to take advantage of any inherent weakness of the enemy's ambush. Ambush tactics depend heavily on the element of surprise to compensate for limited combat power. However, the ambush is destined for failure if effective countermeasures are taken to deny the element of surprise to the enemy.

b. In stability operations extensive use of the convoy ambush is made by hostile forces. The success of these ambushes depends on heavy firepower delivered without warning to inflict maximum damage and casualties in the shortest time. An analysis of ambushes indicates a consistent pattern of techniques. A detailed study of the techniques used by the enemy in preparing for the ambush will provide a better understanding of his potential, increase the ability to detect suspected locations, and enhance the response of friendly forces once contact has been made. The enemy will take advantage of US military forces' use of roads, will gain support of the local populace through a show of force, and will make maximum use of knowledge of the terrain, intelligence, planning, and camouflage techniques. By using the element of surprise, the enemy attempts to compensate for the volume of firepower and mobility possessed by US military forces; however, properly trained units applying proven techniques can overcome the initial surprise

dealt by the ambush force, minimize losses, and defeat the enemy force.

c. Hostile forces normally prefer the deliberate ambush since in this type of ambush a special organization is designated to accomplish specific mission(s). Detailed intelligence and planning, which may take several weeks to complete, are essential to successfully accomplish this type ambush. The enemy will not attempt an ambush without accurate and timely intelligence since the risks involved are too great. Consequently, he will conduct the deliberate ambush only when all factors are in his favor. The intelligence information necessary for the enemy to have includes route and time of movement of the convoy; type of indirect fire support available to react for the convoy; weapons, disposition, and response time of reaction forces; and state of training of the friendly forces.

O-2. Ambush Site Selection and Preparation by Hostile Forces

The enemy carefully selects ambush sites to give him a decided advantage and to place the ambushed unit in an unfavorable position. The hostile force commander will normally make the reconnaissance and personally select the ambush site. In making this selection he considers sites located on uphill grades, curves, heavily wooded areas, defiles, and narrow roads which slow the pace of the convoy, restrict the maneuver space for vehicles, and allow the ambush unit to cover open areas and gain the initiative immediately. The ambush unit will make good use of camouflage, concealment, and fields of fire. To strengthen the ambush, the enemy will employ planned mortar fire, antitank fire, and automatic weapons to cover areas that would permit friendly forces maneuver room to react to the ambush. Hostile forces often reuse sites that have been used previously on a successful ambush.

They strive to keep the personnel and ambush site secure, constantly ready, and completely concealed. Friendly civilians are kept out of the ambush site, and ambush entrances and exits are never established along routes where they can be seen by the approaching convoy. Access routes to the ambush site are carefully selected to preserve the natural appearance of the terrain and camouflage, to maintain secrecy, and to prevent detection. The enemy unit moves into the ambush position through covered and concealed routes avoiding villages and friendly civilians. Once in position, noise, light, and movement discipline are imposed and strictly enforced. All these techniques used by the enemy enhance the secrecy and security of the ambush and add to his chances of achieving complete surprise.

○-3. Organization and Conduct of the Ambush

a. The organization of the ambush party is designed to ensure proper coordination, mutual support, supervision, and management. The ambush party organization is predicated on assigning specific missions to each element to accomplish a prescribed action. Normally, ambush forces include the following components: command element, blocking elements, security elements, and the strike force. In addition, other elements may be organized by the ambush party if the situation dictates. These may include carrying parties, demolition teams, or snipers. Once the ambush is initiated, hostile forces concentrate on convoy destruction and mission accomplishment, thus making the flanks of the ambush party vulnerable to organized counteraction. By providing security forces to the flanks and rear, the ambush party attempts to protect itself from neutralization by reaction forces. Ambush forces will normally break contact when faced with a determined counterattack or flanking force.

b. The enemy habitually conducts detailed rehearsals to overcome his limited communications. A system of signals is devised to coordinate and control the actions of the ambush party. These signals are used to warn the ambush force that the convoy is approaching, to initiate the ambush, and to sound the command for withdrawal.

c. The short, violent action of the ambush is followed by the complete, rapid withdrawal from the ambush site. The greatest amount of damage is done during the initial engagement. No attempt is made to hold the ambush site for an extended period. The entire ambush action, consist-

ing of the initial shock action, the quick kill, the mopup for specific missions, and the withdrawal will normally last about 20 minutes. The withdrawal is conducted in small, well dispersed elements over multiple routes. Guides may be placed along the routes of withdrawal to direct the elements to safe areas and to help the ambush party evade reaction or security forces in pursuit. Time schedules, withdrawal signals, sequence of withdrawal, routes, and assembly points are carefully planned and rehearsed. After the ambush, surviving members will divide into small groups to give the impression that the ambush force has been defeated.

○-4. Examples of Enemy Ambush Operations

a. To emphasize the techniques used in preparing and executing an ambush, the following incidents are presented to add emphasis to the above discussion:

(1) *Example 1.* In one instance, a vehicle convoy hauling supplies had to negotiate a mountain pass with winding, steep grades where vehicle speed was required to be exceedingly slow. Vegetation on the hillsides offered excellent concealment yet afforded clear observation of road traffic. On one side of the pass there was a "hairpin" curve of 180°. Historically, this approach to the pass had been a superb site for enemy ambushes, and over a period of time a number of successful ambushes were conducted at this site. As the head of the convoy moved into the "hairpin" curve, the enemy sprang the ambush from both sides of the road with rocket propelled grenades (RPG's) and heavy machinegun and small arms fire (fig 0-1). At least one enemy soldier was seen standing within 25 meters of the road directing rifle fire at the convoy. In the hour-long contact, friendly forces suffered only slight losses; enemy casualties, if any, were unknown.

(2) *Example 2.* Five days later, another convoy operated over this same route. This time, part of the convoy had negotiated the "hairpin" curve when the rear portion was brought under fire by RPG's, heavy machineguns, and small arms (fig 0-2). The ambush was located about 100 meters beyond the site of the earlier ambush. The contact lasted about 35 minutes and again resulted in light losses of friendly forces. No enemy soldiers were observed at any time by the convoy personnel, nor were any enemy casualties discovered.

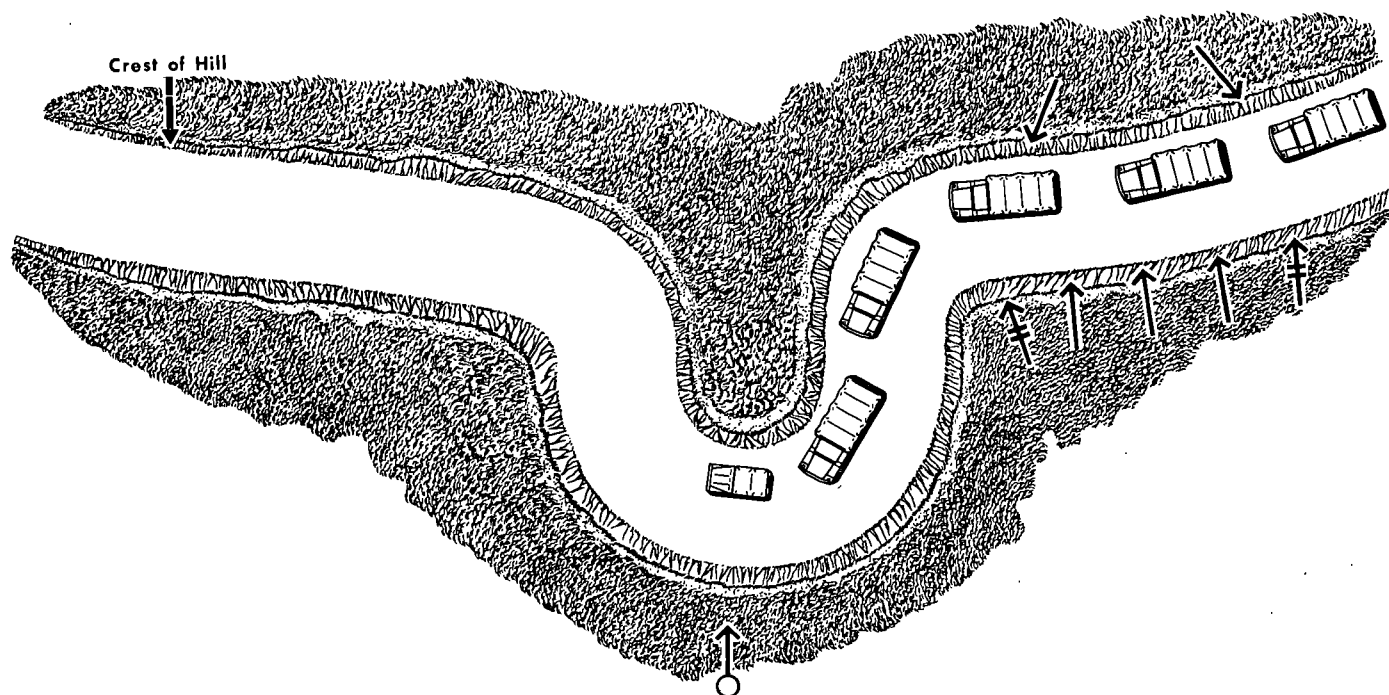


Figure 0-1. Sketch of ambush action (example 1).

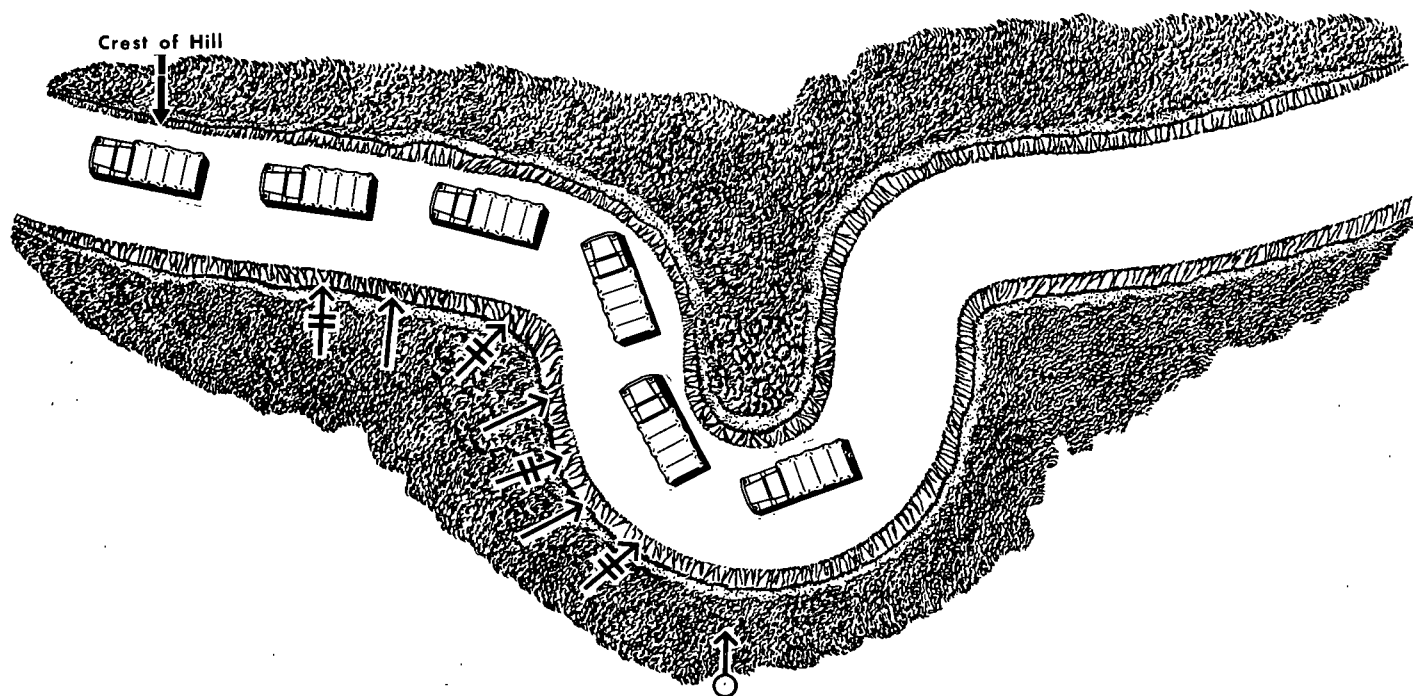


Figure 0-2. Sketch of ambush action (example 2).

b. Both convoys were well organized and cleared the kill zone quickly. Gun trucks and, in the case of the second convoy, manned armored cars moved in quickly to employ suppressive fires.

Communications within the convoys and with supporting forces were excellent. Personnel in the convoys responded to the ambush with remarkable courage, professionalism, and respon-

siveness. However, in spite of the friendly counteraction, the enemy was able to inflict casualties to men and damage to materiel with a minimum cost to himself. This was primarily because the enemy gained the element of surprise. It is not possible to completely deny the enemy the element of surprise, but it is possible to reduce his opportunities to use surprise to his advantage.

O-5. Counterambush Measures to be Taken

a. Planners and convoy commanders should identify likely or possible sites for an ambush by prior reconnaissance. They must find out where previous ambushes have been initiated on the convoy route; defiles, bottlenecks, curves, steep grades, and areas of dense vegetation should be identified. This is the first step in taking the element of surprise away from the enemy.

b. Armored vehicles should be stationed at the likely ambush sites ready to react instantly until the convoy has passed, and then "leapfrog" the convoy to the next likely ambush site. Vehicle time gap should be increased as the convoy approaches suspected ambush sites to avoid presenting a lucrative target. A gap of one to two minutes is not excessive and might prevent the enemy from initiating his ambush.

c. Whenever possible, convoys should have gunship helicopters flying cover as well as reconnoitering the route ahead of the convoy. Planning for the move should include coordination to provide air cover on station at the critical or most likely ambush sites. The visible air cover will act not only as a deterrent to enemy actions but also will afford an excellent means of observation and communication relay, as well as being present to initiate a spoiling attack to break up any detected ambushes.

d. When terrain and the situation allow, free fire zones should be established along the route. Prior to the convoy passing a probable ambush site, the area should be "reconned by fire" with automatic weapons. This measure may spoil the ambush by convincing the enemy that he has been discovered.

O-6. Concluding Remark

Convoys are excellent targets for ambush since the enemy can inflict maximum casualties and damage in a short period of time with little or no expense to himself. Given the opportunity, the enemy will certainly use the ambush to his advantage. Unless effective countermeasures are taken, the odds of success will be weighted in favor of the enemy.

APPENDIX P

VEHICLE COMMITMENT REQUEST

P-1. General

It is essential that agencies or units requesting motor transport support provide the motor transport service with sufficient detailed information so that support requirements may be properly planned and provided. The type format for a vehicle commitment request presented herein provides this necessary information; this format may be adapted as desired to fit the particular needs of any given operational situation.

P-2. Format—Vehicle Commitment Request

a. Requesting Agency.

- (1) Name and rank _____
- (2) Organization and location _____
- (3) Phone _____

b. Task.

- (1) To transport: (tons) (type of cargo) (number of personnel)
 Cube _____ Other (size, shape, etc.) _____
 From _____ To _____
- * (2) Recommended vehicles: (number and/or type) _____
- (3) Load/unload capabilities:
 Origin (vehicles/tons per hour) Estimated load time _____
 Destination (vehicles/tons per hour) Estimated unload time _____
- (4) Vehicles report to:
 Origin: (name, rank, title) _____
 (location) _____
 (phone) _____
 Time and date: Spot for loading _____ Move _____
 Destination: (name, rank, title) _____
 (location) _____
 (phone) _____

c. Coordinating Instructions.

- (1) Type commitment:
 One time _____ Recurring (from) _____
 (through) _____

*This information is offered by the requesting agency as a recommendation based on intended loads, restricted loading/unloading/operating areas, or other factors. The motor transport service will be the final authority on the type and number of vehicles to be dispatched.

- (2) Route information: (special routing; weather effect; etc.)
- (3) Shipment coordinated between consignor and consignee: (yes/no; special instructions)
- (4) Emergency: (yes/no) Authorized by: (name, rank, title, organization, phone)

d. Administrative and Logistic.

- (1) POL: (available origin/en route/destination) (unit provide own)
- (2) Mess facilities: (available origin/en route/destination)
- (3) Billets: (available origin/en route/destination)
- (4) Remarks: (as applicable)
- (5) Reports required: (as applicable)
- (6) Special instructions: (routing; other)

ANNEX I TO APPENDIX P **SAMPLE COMMITMENT ORDER (LINE HAUL OPERATIONS)**

UNIT

APO _____

COMMITMENT ORDER # _____ DATE _____

TMR # _____ TRACTOR _____ DRIVER _____

MISSION: a. To transport: _____
(tons) (cube) (cargo)

b. Number and type of vehicles required: _____

c. USA (or code) number of trailers: _____

d. Safety briefing by: _____

1. ORIGIN I:

a. Reporting point: _____ Bldg: _____

b. Report to: _____ Phone: _____

c. Date/time to report: _____

2. DESTINATION I:

a. Location: _____ Bldg: _____

b. Report to: _____ Phone: _____

3. ORIGIN II:

a. Reporting point: _____ Bldg: _____

b. Report to: _____ Phone: _____

c. You will follow the instructions issued by trailer transfer point personnel.

d. Issued by: _____ Time: _____ Date: _____

4. DESTINATION II:

a. Location: _____ Bldg: _____

b. Report to: _____ Phone: _____

5. ORIGIN III:

a. Reporting point: _____ Bldg: _____

b. Report to: _____ Phone: _____

c. You will follow the instructions issued by trailer transfer point personnel.

d. Issued by: _____ Time: _____ Date: _____

6. DESTINATION III:

a. Location: _____ Bldg: _____

b. Report to: _____ Phone: _____

7. SPECIAL INSTRUCTIONS:

a. If for any reason you cannot follow this commitment order exactly, notify your battalion operations immediately. TEL: _____

b. If you must remain overnight, notify your company, giving your exact location and phone number. TEL: _____

c. If you do not have a trailer for return to home station, contact the nearest trailer transfer point for location and available trailer, loaded or empty.

d. Vehicles exceeding the following dimensions, loaded or empty, are outsize and require a highway clearance for movement:

- | | |
|---------------------------------|---------------|
| (1) Width 8 feet 2.4 inches | (2.5 meters) |
| (2) Height 13 feet 1.5 inches | (4.0 meters) |
| * (3) Length 49 feet 2.5 inches | (15.0 meters) |

*tractor truck w/semitrailer

APPENDIX Q

STANDING OPERATING PROCEDURES

Q-1. General

Standing operating procedures (SOP's) follow a generally standardized format in that they have a heading, a body, and a close (authentication).

a. Heading. The heading identifies the unit which prepares the SOP, along with its location or mail address, gives the date of issue, provides a file or SOP number for easy reference, and gives the SOP title.

b. Body. The information contained in the body of the SOP varies to meet the needs of the preparing unit. It provides a general introduction to the SOP as shown in section I of the sample outline in paragraph Q-3 below. Subsequent sections go into a more detailed coverage of one or more specific major operational areas of the unit (secs II through VII of the sample outline).

c. Close (Authentication). The close of the SOP contains the signature(s) of either or both the commander and the officer authenticating the SOP, which makes the SOP official; a list of annexes to the SOP; and the distribution.

Q-2. Outline

The outline below is offered as a guide in the

preparation of SOP's within a transportation unit.

a. This outline provides for one comprehensive SOP covering major functional areas of a unit. In the interest of ease of preparation and use and in accordance with the desires of the commander, any or all sections may be prepared as individual SOP's.

b. The format for the heading and close is considered adequate for all purposes. However, local directives may require some changes to this format or the information contained therein.

c. The subject matter listed within the body of the SOP is not intended to be restrictive or all-inclusive. Additions, deletions, and/or resequencing may be done as is seen fit, and subject matter may be discussed in as brief or as detailed a manner as the commander desires.

Q-3. Sample Outline for a Transportation Unit SOP

A sample outline for a transportation unit SOP is shown below. For a sample CB defense annex, a sample nuclear defense annex, and a sample area damage control annex to a company SOP, see annexes I, II, and III to this appendix.

Unit designation

Unit location or mail address

Date

File or SOP number

(Standing Operating Procedure)

Title

Section I. GENERAL

1. Subject

2. *Application* (function/mission to which SOP applies)
3. *Purpose and scope*
4. *References* (manuals, regulations, SOP's, and directives of higher headquarters)
5. *Definitions*
6. *Mission*
7. *Capabilities*
8. *Responsibility for preparation, changes, revision*
9. *Effective date(s)*
10. *Procedure guides*

Section II. COMMAND, STAFF, AND LIAISON

11. *Organization*
 - a. Normal.
 - b. Special internal attachments and/or organization.
 - c. Normal and special external attachments and/or support.
12. *Command post*
 - a. Normal location.
 - b. Change of location—reporting coordinates and time.
 - c. Forward/alternate command post.
 - (1) Situation in which required.
 - (2) Command post organization.
 - (3) Personnel and equipment.
13. *Staff duties*
 - a. Special/additional duties of unit officers.
 - b. Duties of attached personnel (military police, medical, etc.).
14. *Liaison*
 - a. Selection and duties of liaison officers.
 - b. Responsibilities for liaison—higher, lower, and adjacent units and headquarters and supported or supporting units.
15. *Planning responsibilities*

Section III. ADMINISTRATION

16. *Normal channels*
17. *Reports*
 - a. Routine.
 - b. Special.
 - c. Submission.
 - (1) Title and reports control symbol.
 - (2) Report form.
 - (3) Due date.
 - (4) Number of copies and distribution.
 - (5) Negative report (required/permissible).

18. *Promotion policies*
 - a. Officer.
 - b. Enlisted.
 - c. Battlefield.
19. *Courts-martial*
 - a. Jurisdiction.
 - b. Location.
 - c. Preparation and submission of charges.
 - d. Administrative procedures prior to, during, and after trial.
20. *Mail*
 - a. Handling of official mail.
 - b. Handling of personal mail.
 - c. Registered and insured mail.
21. *Leaves and passes*
 - a. Command policy—conduct and venereal disease and delinquency control.
 - b. Authority to grant.
 - c. Sign out(in) register.
22. *Journal and history*
Responsibility for unit journal and history.
23. *Military publications*
 - a. Receipt and filing.
 - b. Availability in unit.
 - c. Requisition of special and/or additional publications.
24. *Handling of prisoners of war*
 - a. Provisions of and reference to FM's 19-40 and 27-10.
 - b. Special instructions to person(s) effecting capture.
25. *Awards and decorations*
 - a. Channels for submission.
 - b. Form.
 - c. Presentation.
26. *Orders (FM 101-5)*
 - a. Types.
 - b. Preparation.
27. *Billets and bivouacs*
 - a. Policies—occupation and clearance.
 - b. Billeting and/or cleanup parties.

Section IV. MOVEMENT

28. *General* (references to SOP of higher headquarters)
29. *Movement by motor* (FM 55-30; TM 55-310)
 - a. Coordination with higher headquarters.
 - b. Preparation of unit vehicles.
 - c. Convoy operations (motor march).
 - (1) Strip maps.
 - (2) Route reconnaissance.
 - (3) Makeup of convoy (serials and march units).
 - (4) Control personnel.
 - (5) Convoy and vehicle distance and time factors (vehicle and column gaps; road distance).

- (6) Start point and release point.
- (7) Rate of movement (speed, pace, and rate of march).
- (8) Time lengths (convoy, serial, march unit).
- (9) Messing and refueling.
- (10) Rest halts.
- (11) Accident and breakdown procedures.
- (12) Operating during hours of darkness (control, blackout measures).
- (13) Communications.
- (14) Supporting services (fuel, maintenance, medical).
- (15) Use of guides, traffic escorts.
- (16) Loads and loading.
- (17) Cargo security.
- (18) Active and passive defense measures (sec V).

30 *Vehicle and equipment operations*

- a. Motor pool (task vehicles).
 - (1) Forms, records, and reports.
 - (2) Receipt of commitments.
 - (3) Dispatch of vehicles.
 - (4) Vehicle servicing.
 - (5) Vehicle maintenance.
- b. Procedures governing use of unit administrative vehicles.

31. *Movement by rail*

- a. Unit loading plan (TM 55-604).
- b. Coordinating actions with staff officers of higher headquarters.
 - (1) *S1 (administration)*.
 - (a) Movement policies.
 - (b) Troop list and orders.
 - (c) Transportation movements matters.
 - (2) *S2 (security)*. Security requirements.
 - (3) *S3 (plans and operations)*.
 - (a) Requirements for rolling stock.
 - (b) Coordination of loading plan.
 - (c) Loading area and schedule.
 - (d) Troop entraining and detraining.
 - (4) *S4 (support services)*.
 - (a) Initiation of transportation request.
 - (b) Troop messing.
 - (c) Blocking and dunnage.
 - (d) Shipping documents.

32. *Movement by air*

- a. Unit loading plan (TM 55-604).
- b. Coordinating actions with staff officers of higher headquarters.
 - (1) *S1 (administration)*. (Same as motor.)
 - (2) *S2 (security)*. (Same as motor.)
 - (3) *S3 (plans and operations)*.
 - (a) Determination of aircraft required.
 - (b) Coordination of loading plan.
 - (c) Loading schedule and area.
 - (d) Troop emplaning and deplaning.
 - (e) Explanation of air transport techniques.
 - (1) *S4 (support services)*.
 - (a) Initiation of transportation request.
 - (b) Availability of tiedown devices.

- (c) Preparation of weight-of-equipment data for loading computations.
- (d) Shipping documents.
- (e) Number and type of vehicles required to load and unload aircraft.
- (f) Troop messing.

33. *Movement by water*

- a. Unit loading plan (TM 55-604).
- b. Coordination actions with staff officers of higher headquarters.
 - (1) *S1 (administration)*. (Same as motor.)
 - (2) *S2 (security)*. (Same as motor.)
 - (3) *S3 (plans and operations)*.
 - (a) Determination of shipping requirements.
 - (b) Coordination of loading plan.
 - (c) Loading schedule and area.
 - (d) Troop embarkation and debarkation.
 - (4) *S4 (support services)*.
 - (a) Initiation of transportation request.
 - (b) Troop messing.
 - (c) Shipping documents.

Section V. SECURITY

- 34. *General (policies and responsibilities)*
- 35. *Security during movement by motor*
 - a. Unit security guards (air, ground).
 - b. Attached security forces.
 - c. Manning of vehicular weapons.
 - d. Action in event of attack by—
 - (1) Air.
 - (2) Mechanized warfare.
 - (3) Ground troops and guerrillas (including ambush).
 - (4) Chemical-biological-nuclear agents.
 - e. At-halt defense and camouflage measures.
- 36. *Security in bivouac*
 - a. Camouflage.
 - b. Perimeter defense.
 - c. Mines and boobytraps.
 - d. Action in event of attack by—
 - (1) Air.
 - (2) Mechanized warfare.
 - (3) Ground troops and guerrillas.
 - (4) Chemical-biological-nuclear agents.
 - e. Sentries and outposts.
 - f. Joint security measures.
- 37. *Attack warning signals*
 - a. Air (airborne).
 - b. Mechanized.
 - c. Ground troops and guerrillas.
 - d. Chemical-biological-nuclear.

38. *Fire safety and firefighting*
 - a. Fire plan.
 - b. Fire personnel and duties.
 - c. Safety plan and rules (motor pool, mess, etc.)
39. *Alert plans*
 - a. Unit alert plan.
 - b. Alert roster.
 - c. Arms and equipment.
 - d. Phase system for alert warnings.
40. *Destruction of equipment*
 - a. Unit plan.
 - b. Team personnel and duties.
 - c. Order for destruction.
41. *Area damage control*
 - a. Unit plan.
 - b. Team personnel and duties.
 - c. Team equipment.

Section VI. COMMUNICATIONS

42. *General*
 - a. Types used.
 - b. Priorities for use.
 - c. Alternate means.
43. *Communications within and between units*
 - a. Radio net.
 - b. Telephone system.
 - c. Other available means.
 - d. Responsibilities for installation.
44. *Communications procedures*
 - a. Voice procedures (radio, telephone).
 - b. Visual, sound, messenger procedures.
 - c. Communications security (includes coding and decoding).
 - d. Reference to signal operation instructions and standing signal instructions of higher headquarters.
45. *Communications maintenance responsibility*
 - a. Commander.
 - b. Communications officer.
 - c. Users and operations.

Section VII. SUPPLY AND MAINTENANCE

46. *General* (Refer to SOP of higher headquarters; designate support agencies if practicable.)
47. *Rations*
 - a. Pickup.
 - b. Daily ration return and ration cycle.

- c. Reserve rations carried:
 - (1) By unit.
 - (2) By individuals away from unit.

48. *Water*

- a. Authorized source.
- b. Purification expedients.
- c. Water economy.

49. *Clothing and equipment*

- a. Requisition days for various services.
- b. Pickup and issue procedures.
- c. Turn-in procedures (salvage, replacement).
- d. Authorized droppages.

50. *Petroleum, oil, and lubricants*

- a. Resupply procedures.
- b. Reserve and basic load.
- c. Fuel economy.

51. *Ammunition*

- a. Resupply procedures.
- b. Forms and/or certificates used.
- c. Basic load.
- d. Salvage.

52. *Maintenance of vehicles and equipment*

- a. Driver maintenance.
- b. Organizational maintenance.
- c. Direct and general support services.
- d. Forms, records, and reports.
- e. Responsibilities of maintenance officer.

53. *Repair parts*

- a. Parts and equipment records.
- b. Requisitioning procedures.
- c. Authorized stockage levels.

54. *Evacuation channels for vehicles and equipment*

- a. Procedures.
- b. Forms, records, and reports.

Last name of commander (typed)

Rank

Annexes: (List all which are attached; may include such as uniforms regulations; safeguarding and destruction of classified documents; rear area protection plans, loading plans, training, etc.)

- A.
- B.
- C.

DISTRIBUTION: (Indicate proper distribution.)

OFFICIAL:

Signature of authenticating officer

Typed name (last) of authenticating officer

Title

ANNEX I TO APPENDIX Q

SAMPLE CHEMICAL AND BIOLOGICAL DEFENSE ANNEX TO COMPANY STANDING OPERATING PROCEDURE (SOP)

Unit designation

Unit location or mail address

Date

File or SOP number

Annex ____ (Defense Against Chemical and Biological Attacks) to SOP
No. ____

1. General

This annex standardizes procedures for defense against chemical and biological attacks and for operations in a contaminated environment.

2. References

FM 21-40, FM 21-41, FM 21-60, TM 3-220, TM 3-221, and AR 220-58.

3. Organization

a. Subordinate Units. Each platoon leader will appoint a chemical and biological (CB) defense noncommissioned officer (NCO) and alternates to assist in the conduct of CB defense training and operations in a contaminated environment.

b. CB Defense Team. This team also functions in nuclear-radiological defense team role (para 3a, nuclear-radiological annex). A CB defense team will be formed to operate under the supervision of the company commander. This team consists of a CB team chief (CB defense officer), two CB defense NCO's (one NCO to supervise the chemical detection and radiological survey parties and the other NCO to supervise the decontamination squad), and the personnel described below.

(1) Two chemical detection (and radiological monitoring) parties, one primary and one alternate, will be trained for each chemical agent detector kit and chemical agent alarm (and radiological survey meter) authorized the unit. Chemical reconnaissance personnel will be trained for the detection of contaminated terrain.

(2) A chemical decontamination squad will maintain a capability to perform minimum necessary decontamination of unit equipment and areas.

(3) Support and security personnel, as required.

4. Responsibilities

a. Unit Commander. The unit commander is responsible for—

(1) Proficiency of the unit in all phases of chemical and biological defense.

(2) Designation and control of the unit mission-oriented protective posture (wearing of protective clothing and equipment) for operations in a chemical environment, consistent with the unit mission, temperature, and anticipated work rate.

(3) Insuring that appropriate warnings and alarms are transmitted on the unit voice radio command net immediately on receiving an alarm from the automatic chemical agent alarm system or other sources.

b. Unit CB Defense Officer. The unit CB defense officer makes necessary arrangements for personnel to operate any chemical protective and defensive equipment required, such as a collective chemical protection shelter and decontamination station.

c. Platoon Leader. The platoon leader designates personnel to set up the M8 automatic chemical agent alarm when occupying a new position.

d. CB Defense Team. The unit CB defense team uses chemical agent detector equipment and the chemical agent alarm to detect a chemical attack, to reconnoiter terrain to be traversed or occupied by the unit, and to locate contaminated areas and mark their boundaries with designated markers. It decontaminates within its capabilities vital areas and equipment designated by the unit commander.

e. Sentries/Guards. Personnel designated for sentry/guard duty will have the following additional duties:

(1) Be especially alert to chemical and biological agents and means of delivery.

(2) Understand the unit's CB warning system and means of warning.

(3) Know the location of company and platoon command posts.

f. All Personnel. All personnel must understand the unit system of personnel identification and recognition (para 9 below). All personnel must understand the indications of a chemical or biological attack and sound the alarm, when required.

5. Alarms and Warning Systems

Company radio or telephone operators will alert the platoons on the company radio or telephone net of a chemical or biological attack, will sound the local alarm (*b* below), and will transmit the appropriate chemical or biological attack report to the battalion.

a. Unit Chemical and Biological Attack Warning. The chemical alarm and warning system consists of the M8 automatic chemical agent alarm, chemical agent detector kits, and the radio or telephone warning net. Warnings of a chemical or biological attack will be transmitted on the company command net with a FLASH precedence to all units, using brevity code "GAS" for a chemical attack and "MASK" for a biological attack.

b. Local Alarm. The local alarm for a chemical or biological attack is given by the individual after putting on his protective mask (if not already masked according to the mission-oriented protective posture), and then giving the approved hand signals, the vocal alarm, and/or sounding the percussion-type alarm located at the unit command post. The vocal alarm for a chemical or biological spray attack is "SPRAY," for a chemical attack by any other means is "GAS," and for a biological attack by any other means is "MASK."

6. Procedures.

If alerted to a possible chemical or biological attack, units will assume that all artillery and air attacks are chemical attacks (until proved otherwise) and will take appropriate defensive action for a chemical attack. Individuals will mask automatically when under artillery and air attack, when they observe symptoms of chemical agents in personnel, or when they hear the chemical or biological attack alarm.

a. Action Before Chemical Attack. Units alerted to a possible or imminent chemical attack will acknowledge receipt of the alert and insure that—

- (1) Chemical detection and warning systems are operational.
- (2) Individual protective measures and the mission-oriented protective posture are adequately controlled.
- (3) Collective protection shelters, if any, are operational.

b. Action During Chemical Attack. Units will alert all personnel and make sure that they are adhering to the designated mission-oriented protective posture.

c. Action After Chemical Attack.

(1) If appropriate, the unit commander will consider changes in the mission-oriented protective posture.

(2) Personnel will check their clothing and equipment to determine whether they are contaminated. If contaminated, personnel apply first aid and decontaminate themselves without orders. They will draw fresh clothing and equipment, as required, from the supply point. Contaminated clothing will be processed at the supply point as directed. Personnel assigned to crew-served weapons and equipment will decontaminate them with STB slurry or DS2, as directed.

(3) Decontaminating personnel will assist in decontaminating areas, vehicles, and equipment designated by the unit commander.

(4) Filter elements of M17-series protective masks will be replaced as required.

7. Decontamination

a. Individual. Individuals will decontaminate themselves and their equipment, when required, and continue their mission.

b. Crew-Served Weapons and Equipment. Crews assigned to weapons and equipment will decontaminate them with STB slurry or DS2 and continue their mission.

c. Units. The unit commander will designate what must be decontaminated and the priority for decontamination.

8. Intelligence

CB Agent Detection and Identification System. All enemy chemical attacks will be reported to the battalion with or without the identity of the agent used. If the agent used cannot be detected by the chemical agent detector kit, this information will be included in a subsequent report.

9. Identification of Personnel

When personnel are wearing chemical protective overgarments and protective mask and hood, the following identification procedures will be used:

a. Each person in a platoon will be issued two lengths of engineer tape or ribbon (approximately 18 inches) color coded by platoons as follows:

- (1) 1st platoon—purple.
- (2) 2d platoon—scarlet.
- (3) 3d platoon—gold.
- (4) Maintenance section—blue.

b. Strips will be attached to the web gear, with one placed on the pistol belt center rear and one placed on the harness below the first aid packet.

c. Subdued rank insignia will be worn on all headgear; 3-inch lengths of masking tape, bearing the individual's name, will be attached to the front and rear of the helmet.

d. Squad leaders will wear a color-coded (by platoon) triangle of masking tape above their name tape on the helmet; platoon sergeants will wear a color-coded diamond.

/s/

/t/KARL THURSTON

Captain, TC

Commanding

ANNEX II TO APPENDIX Q

SAMPLE NUCLEAR-RADIOLOGICAL DEFENSE ANNEX TO COMPANY STANDING OPERATING PROCEDURE (SOP)

Unit designation

Unit location or mail address

Date

File or SOP number

Annex ____ (Defense Against Nuclear Attack and Radiological Hazard)
to SOP No. ____

1. General

This annex prescribes procedures for defense against nuclear attack and radiological hazard. It provides guidance for—

- a. Procedures to be followed by individuals and units during and following a nuclear attack.
- b. Predictions of fallout from a nuclear burst.
- c. Radiological monitoring and survey.

2. References

FM 21-40, FM 21-41, FM 3-12, TM 3-210, and AR 220-58.

3. Organization

Unit personnel will be used on an additional duty basis.

a. *Nuclear-Radiological Defense Team.* Chemical-biological (CB) defense team will also function as nuclear-radiological team (para 3b, CB annex).

b. *Labor Squad.* The company will organize, equip, and train a labor squad consisting of one noncommissioned officer (NCO) or specialist and nine enlisted men for employment as directed. Equipment will include one 2½-ton truck with trailer, and other tools and equipment as indicated in unit area damage control SOP.

c. *Emergency Decontamination Squad.* The company will organize, equip, and train an emergency decontamination squad consisting of one NCO or specialist and six enlisted men as required for employment on call of the unit commander. Equipment and supplies will include one 2½-ton truck with trailer, shovels, dosimeters and survey meters, personnel monitoring instruments, and such chemical decontaminating equipment and material as available.

4. Responsibilities

a. Unit Commander. The commander is responsible for—

(1) Proficiency of the unit in all phases of defense against nuclear attack and radiological hazards.

(2) Training and availability of personnel.

(3) Actions to minimize exposure to radiological hazards.

b. Nuclear-Radiological Defense Team. This team monitors terrain or surveys radiologically contaminated areas, as directed, and marks the radioactive boundaries with "ATOM" markers.

5. Warnings and Alarms

Designated personnel will report nuclear attacks and fallout warnings through the command radio or telephone net, sound the local alarm when appropriate, and transmit required reports to the battalion S2. The brevity code for fallout is "FALLOUT."

a. Unit Report. Information relative to nuclear burst and fallout will be reported as directed by battalion.

b. Local Alarm. All personnel will be alerted when fallout is predicted for the unit area. When fallout is imminent, the local alarm ("FALL-OUT") will be given and all personnel will take necessary protective measures.

6. Procedures Immediately Following a Nuclear Attack

Immediately following a nuclear attack, the following actions will be taken automatically, without orders:

a. Individuals and crews will establish contact with immediate superiors.

b. Individuals will take the following actions under fallout conditions consistent with the mission:

(1) Acquire the following protection in the order listed (remain in the shelter until the area has been declared safe or until exit is required for urgent reasons):

(a) Underground shelter.

(b) Foxhole with overhead cover.

(c) Buildings of masonry construction in preference of buildings of wood or other construction.

(d) Clothing or a shelter half to cover all exposed skin; and additional cover under shelter halves, blankets, or canvas.

(e) Vehicles with sandbagged floors and sides.

(2) After fallout has stopped, decontaminate themselves, if required, by taking the actions listed below, when practicable:

(a) Brush clothing and equipment thoroughly to remove fallout (this should be done away from the area that the individual will occupy).

(b) Bath, if possible (preferably by showering), and change clothing.

(c) Decontaminate individual equipment by brushing, wiping, and, as appropriate, scrubbing.

(d) Decontaminate the immediate area where located by turning soil (or hosing, if practicable).

(e) Clean equipment, as required.

(3) Maintain full canteens and sufficient rations for at least a 24-hour stay in the contaminated area.

(4) Wear respirator or handkerchief over nose and mouth if dust hinders breathing.

(5) When practicable, reduce stay time in the contaminated area.

c. Subordinate units will—

(1) Turn on radiac instruments and start continuous monitoring.

(2) Report to next higher headquarters any element out of contact.

(3) Take the following protective measures:

(a) Prepare for early movement.

(b) Displace, as directed to avoid radiological hazard, and continue mission.

(4) Avoid doses in excess of radiation exposure guide.

(5) Report information relative to nuclear burst by required report.

(6) Report initial time of arrival and dose rate of fallout in the unit area.

7. Radiological Fallout Prediction

The company monitors the battalion net for fallout prediction data. When the company observes a nuclear burst and before receiving fallout prediction data, the simplified fallout prediction method is used to obtain an estimate of the potential hazard area, provided that ground zero can be approximated. The M4A1 nuclear yield calculator of the M28A1 nuclear calculator set, nuclear burst data, the division effective downwind message, and the M5A1 radiological fallout predictor are used to predict the fallout area.

8. Radiological Monitoring

The company will maintain a monitor at the command post (CP). When appropriate, the monitor will make routine checks of the company area and CP each hour.

a. Continuous monitoring will be initiated—

(1) On receipt of a fallout warning.

(2) When ordered by the commander.

(3) After a nuclear burst has been seen or heard.

(4) When the company is moving.

(5) When a nuclear strike is reported.

(6) When radiation above 1 rad/hr is detected by periodic monitoring.

b. During continuous monitoring, all readings will be made in the same location, except when the company is moving or when other factors make it impracticable. The following information will be reported to the battalion:

(1) The location, dose rate, and time of the initial dose rate of 1 rad/hr.

(2) The peak dose rate recorded.

Note. The dose rate, location, and time of an increase or decrease of 10 rad/hr are recorded until the dose rate reaches 50 rad/hr. Any increase or decrease from 50 rad/hr will be reported to the battalion. These dose rate are used for example only. Frequency of reading will depend on the situation, and dose rate criteria will be specified by higher headquarters.

(3) The correlation factor data for the shelter or vehicle of the monitor.

(4) Summary report described in paragraph 9c below.

c. Continuous monitoring will stop—

- (1) On instructions from the battalion.
- (2) When the dose rate falls below 1 rad/hr (except for units on the move).

9. Reporting Procedure

a. The initial detection of 1 rad/hr will be reported to the company with an IMMEDIATE precedence of the company command net. The report will be made in the clear (unless otherwise specified), giving location, dose rate, and time detected. The company will submit a report of detection to battalion with an IMMEDIATE precedence.

b. Subsequent reports will be screened and consolidated by the company. These reports will include the average level of radioactivity in the company area and the location and time of the highest dose rate in the area. Reports will be submitted to battalion as the dose rate in the area is rising, at the first indication that the dose rate is beginning to decline, and after that as the battalion directs. These reports will be assigned an IMMEDIATE precedence, consistent with operational requirements for communication facilities.

c. A summary report will be submitted to battalion, when directed. This may consist of an overlay showing the radiation situation in the area as compiled from monitoring reports.

10. Radiological Surveys

Radiological surveys will be conducted only on orders of the battalion. Ground survey parties will follow the prescribed course and will report the dose rate, location, and time of reading at points designated. Readings will be taken with the survey meter held approximately 1 yard (1 meter) above the ground. In open areas, readings will be taken at least 30 feet (approximately 10 meters) from buildings or other large structures. In built-up areas, readings will be taken in the center of the street or at intersections. Mounted monitors will determine the shielding correlation factors and include these data in the first survey report. Readings will be recorded on DA Form 1971-R.

/s/
/t/KARL THURSTON
Captain, TC
Commanding

ANNEX III TO APPENDIX Q

SAMPLE AREA DAMAGE CONTROL ANNEX TO COMPANY

STANDING OPERATING PROCEDURE (SOP)

Unit designation

Unit location or mail address

Date

File or SOP number

Annex ____ (Area Damage Control) to SOP No. ____

1. Purpose and Scope

a. The purpose of this SOP is to establish responsibilities and procedures to be followed in the event of enemy action, a major accident, or a natural disaster which may threaten or affect the conduct of unit operations.

b. This SOP establishes an organization for area damage control (ADC), prescribes equipment for the ADC team, delineates responsibilities of personnel, and describes procedures to be taken when ADC control procedures are initiated.

2. References

a. FM 31-85.

b. Maps and overlays (list as appropriate).

c. Orders and related documents (list as appropriate).

d. SOP's of higher headquarters (list as appropriate).

3. Organization and Personnel

a. Labor Squad.

(1) One labor squad will be provided by this company for employment in an ADC role.

(2) The labor squad is organized and manned as follows:

<i>Duty position</i>	<i>Rank</i>	<i>Number</i>
Squad leader	E6/E5	1
Assistant squad leader	E5/E4	1
Vehicle driver	E4	1
Workers	E4/E3	7

(3) Assignment of personnel to the labor squad will be on a rotation basis and as directed by the company commander.

b. ADC Personnel. The following ADC functions are delegated to unit personnel as indicated:

- (1) ADC officer (*name and title*).
- (2) ADC noncommissioned officer (NCO) (*name and title*).

4. ADC Equipment

The labor squad will be equipped with the following:

<i>Item</i>	<i>Number</i>
Truck, 5-ton	1
Trailer, 1 1/2-ton	1
Hand shovel	8
Pick mattock	2
Ax	2
Bucket, 5-gallon	2
Rope, 1-inch	300 feet
Rope, 1/2-inch	150 feet
Kit, carpenter	1
Medical supplies	(As required)
Goggles	10
Hacksaw with blades	1
Bolt cutter	1
Pry bar	1
Jack, hydraulic, 5-ton capacity	1

5. Duties and Responsibilities

a. ADC Officer.

(1) The ADC officer will assure that the labor squad is properly manned, trained, and equipped.

(2) In the event of a hostile action or natural disaster within the unit area, the ADC officer will direct, control, and supervise the operations of the labor squad and any other ADC support elements provided to the unit for ADC purposes.

(3) The ADC officer will, when directed by proper authority, proceed with the labor squad to assist in ADC operations outside the company area.

b. ADC NCO. The ADC NCO will assist the ADC officer in the performance of his duties. In the absence of the ADC officer, the ADC NCO will function in his capacity.

c. Labor Squad Personnel. Upon direction of the ADC officer, the labor squad personnel will—

- (1) Proceed rapidly, with equipment, to the scene of the ADC action.
- (2) Assist in the rescue of trapped and injured personnel.
- (3) Provide emergency first aid to injured personnel.
- (4) Provide assistance to firefighting teams, light and heavy rescue squads, explosive ordnance disposal detachments, and chemical-biological-radiological teams, as directed.
- (5) Provide such other assistance as is required in ADC action.

d. Company Supply Sergeant.

(1) The supply sergeant will obtain, store, maintain in readiness, and issue the tools, equipment, and supplies—less vehicles—as required for ADC operations.

(2) The supply sergeant will requisition through normal supply channels supplies and equipment required for ADC operations which are in excess of allowances in table of organization and equipment and in table of allowances; requisitions will cite the special authority for such overages.

e. Company Truckmaster. The truckmaster will provide the transportation required to support the labor squad.

f. Other Unit Personnel. Upon initiation of ADC procedures, all unit personnel not assigned a specific ADC function will, unless otherwise directed, continue normal operations.

6. ADC Procedure

a. In the event of an ADC incident in the unit area, the labor squad leader will alert squad members and then report to the ADC officer for instructions. Squad personnel will remain on a standby basis until directed otherwise by the squad leader or the ADC officer or NCO.

b. On receipt of notification of an ADC incident outside the unit area, the ADC officer or NCO will notify the labor squad leader and alert the labor squad.

c. On direction of the ADC officer, the labor squad will be committed to active ADC operations.

7. *Miscellaneous.* Only those vehicles engaged in or actively supporting ADC activities, or those engaged in tactical operations, will be permitted to enter or operate in the affected area.

/s/

/t/KARL THURSTON

Captain, TC

Commanding



APPENDIX R

UNIT COMMANDER'S CHECKLIST

UNIT MOVEMENT PLANNING

Section I. GENERAL

R-1. General

This checklist may be used by unit commanders in checking the actions required for movement planning on a continuous basis, on receipt of a

warning order, and on receipt of a movement order. It is complete and comprehensive; however, it must be adjusted to meet the instructions in specific movement orders and local directives and procedures.

Section II. ACTIONS CONDUCTED ON A CONTINUOUS BASIS

R-2. Standing Operating Procedures (SOP's), Checklists, and Plans

SOP's, checklists, and plans for all assumed contingencies should be prepared and maintained up to date by all units. These documents should include but are not necessarily limited to the following:

- a. A pyramidal recall alert plan for personnel on leave, pass, temporary duty, special duty, etc.
- b. Unit intelligence SOP.
- c. Unit censorship SOP (AR 380-200, FM 30-28).
- d. Unit movement and loading plans for all modes (AR 220-10, AR 55-113, TB 55-46, and transportability manuals indexed in DA Pamphlet 310-4).
- e. Vehicle preparation for movement SOP.
- f. Convoy operations SOP.
- g. SOP's for detached parties (advance parties, quartering parties, and rear detachments).
- h. Unit personnel SOP.
- i. Unit mail clerk SOP.
- j. Unit mess SOP.
- k. Unit movement officer SOP.
- l. Unit movement staff SOP; via motor convoy, rail, air, and water (TM 55-604).

R-3. Personnel and Administrative Actions

- a. See that identification tags are in the possession of unit personnel.
- b. Insure that immunizations are current.
- c. Be sure that eyeglasses are on hand (two pair), when appropriate. (Also protective mask lens.)
- d. Issue "Code of Conduct" card (Graphic Training Aid (GTA) 21-50) to each person.
- e. Prepare and maintain United States Strategic Army Forces (STRAF) readiness folders (if applicable) on all personnel to include—
 - (1) Preparation for overseas movement (POM) (units) personnel checklist (Annex I).
 - (2) DA Form 1341 (Allotment Authorization) (to Start, Stop, and Change Allotments).
 - (3) DD Form 528 (Geneva Conventions Identification Card).
 - (4) DA Form 613 (Checklist for Preparation of Replacements for Oversea Movement).
 - (5) DD Form 1175 (Change of Address and Directory Record).
 - (6) Other documents as may be required locally.
- f. Maintain a 90-day supply of blank forms (this is only a suggestion—change as required based on specific contingency plan).
- g. Appoint unit safety officer.

h. Obtain athletic and recreation equipment for deployment, if desired (CTA 20-2).

i. Maintain a current list of ineligible, nondeployable personnel.

R-4. Security Actions

a. Appoint unit security officer (AR 380-5).

b. Appoint unit censorship officer (AR 220-10).

c. Appoint unit intelligence officer or intelligence noncommissioned officer.

d. Obtain personnel security clearances.

e. Maintain list of alien personnel (AR 600-200).

f. Maintain censorship forms (censorship stamps, if applicable) (AR 380-200).

R-5. Operations and Training Actions

a. Maintain a pyramidal alert recall plan (recommend off-post telephone calls be limited to three calls per company-size unit).

b. Determine support requirements necessary from other units and/or the installations to support movement and loading plans such as labor, materiel, messing, vehicles, materials handling equipment, lighting, etc.

c. Have available the date and results of the

most current assembly test exercise and/or mobility test exercise.

d. Check status of unit training (annex II, training checklist).

e. Individual training.

(1) Maintain individual training records up to date.

(2) Maintain chemical-biological-nuclear training records up to date.

(3) Insure that arms qualification is complete.

(4) Insure that training is conducted in accordance with the provisions of AR 220-10.

f. Maintain complete files of STRAF references and allied documents.

R-6. Logistic Actions

a. Prepare unit movement and loading plans and submit to the installation transportation office.

b. Request required number of CONEX containers and container inserts.

c. Request required packing, loading, blocking, bracing, and tiedown materials.

d. Designate a unit materiel readiness officer.

e. Designate and train packing, loading, blocking, bracing, and documentation teams.

Section III. ACTIONS TO BE TAKEN ON RECEIPT OF WARNING ORDER

R-7. General

If the actions indicated in section II above have been accomplished, then upon receipt of a warning order the unit commander may immediately initiate implementing procedures. These procedures include but are not necessarily limited to those outlined in subsequent paragraphs.

R-8. Personnel and Administrative Actions

a. Place pyramidal recall plan into effect.

b. Conduct meeting of key unit personnel.

c. Open unit journals and maintain logs.

d. Brief all personnel in accordance with Articles 85 and 87, Uniform Code of Military Justice, and AR 220-10.

e. Begin preparation of all items listed in each

United States Strategic Army Forces (STRAF) folder.

f. Prepare strength accounting records (AR 680-1).

g. Prepare rosters for—

(1) Personnel shortages by MOS.

(2) Nondeployable personnel.

(3) Identification cards and tags required.

(4) Immunizations required.

(5) Requests for medical and dental records.

(6) Passengers for water movement.

h. Establish and maintain liaison with finance and accounting office.

i. Appoint personal affairs officer.

j. Request personnel replacements.

R-9. Security Actions

- a. Check security of unit area (FM 30-5).
- b. Set up a security guard system of all areas where movement preparations are conducted.
- c. Brief incoming and debrief departing personnel.
- d. Instruct personnel on safeguarding classified movement information (AR 220-10 and AR 380-55).
- e. Update listing of personnel security clearances and pending clearances.
- f. Make provisions for sensitive and security risk personnel.
- g. Make provisions for personnel flagged for security reasons (AR 600-31).
- h. Make provisions for restricted assignment personnel (AR 614-31 and AR 614-32).
- i. Prepare instructions for disposition of classified documents (AR 340-1, AR 380-5, and AR 380-55).
- j. Maintain roster of alien personnel.

R-10. Operations and Training Actions

- a. Conduct training in accordance with AR 220-10 and AR 612-2.
- b. Submit request for relief of details, guards, and other commitments to next higher headquarters.
- c. Submit request through channels for sup-

port required; that is, transportation, manpower, materials handling equipment, etc.

- d. Post individual training records.
- e. Submit request through channels for use of gas chamber, ranges, and other training areas, as required.
- f. Effect return of special duty personnel.
- g. Report to next higher headquarters the time when the unit is ready for administrative and in-ranks inspection.

R-11. Logistic Actions

- a. Establish and send liaison officer to appropriate installation transportation office.
- b. Verify as requested or on hand the following:
 - (1) CONEX containers.
 - (2) CONEX container inserts.
 - (3) Packing, banding, blocking, chocking, and bracing materials.
- c. Verify required supplies and equipment held at station level.
- d. Follow up on outstanding requisitions.
- e. Prepare POM requisitions.
- f. Request technical assistance teams, if desired (AR 220-10).
- g. Prepare DA Form 2062 (Hand Receipt/Annex Number), for station property.
- h. Fit and inspect individual protective masks.

Section IV. ACTIONS TO BE TAKEN ON RECEIPT OF MOVEMENT ORDER**R-12. Personnel and Administrative Actions**

- a. Complete all actions initiated in the warning order phase.
- b. Initiate required and/or desired pay actions, such as—
 - (1) Partial and advance payments to members.
 - (2) Allotment actions.
- c. Complete installation clearances.
- d. Personal affairs officer will assist personnel in—
 - (1) Wills.
 - (2) Powers-of-attorney.

- (3) Clearance of quarters.
- (4) Movement of families, if required.
- (5) Disposition of personal property; for example, automobiles, boats, etc.
- e. Insure that all personnel shortages are filled.
- f. Complete unit fund and unit fund property actions required.
- g. Conduct orientation for oversea duty (AR 612-2). If location of oversea area is classified, orientation may be given during transportation to area.
- h. Establish leave schedules.

R-13. Security Actions

- a. Complete all actions initiated in the warning order phase.
- b. Insure that all actions in intelligence standing operating procedure have been taken.
- c. Insure that a security check of area is made prior to departure of unit if move is classified.
- d. Use unit identification codes (UIC) to eliminate classified information from documents (AR 380-55).
- e. Insure that written instructions are available for handling classified documents accompanying the unit or to be forwarded to the unit's destination (AR 340-1).
- f. Have plan for emergency removal or destruction of classified material while en route to or stationed at an overseas area.
- g. Insure that written instructions are available for the disposition of classified documents to be left behind (AR 340-2).
- h. Make provisions for removal of unit identification from personal equipment and vehicles, if required.
- i. Insure that classified material is packed for shipment in accordance with AR 380-55.
- j. Insure that unit has authorized maps.
- k. Insure that escape and evasion training is completed.
- l. Insure that training on subversion and espionage directed against the US Army is completed.

R-14. Operations and Training Actions

- a. Complete all actions initiated in the warning order phase.
- b. Conduct additional training inspections as required.

R-15. Logistic Actions

- a. Complete all actions initiated in the warning order phase.
- b. Conduct equipment showdown inspection.

c. Replace equipment shortages and unserviceable items.

d. Turn in organizational equipment not authorized by the movement order.

e. Arrange for issue of equipment authorized by the movement order.

f. Draw all blocking, bracing, chocking, tie-down, and crating materials.

g. Draw CONEX transporters and inserts.

h. Commence packing organizational equipment and processing vehicles for overseas.

i. Complete movement documentation.

j. Complete packing and crating (AR 220-10).

k. Insure that CONEX containers are packed, braced, and blocked (AR 55-165 and AR 55-166).

l. Apply markings to all packages and containers (AR 220-10 and DOD Regulation 4500.32-R). Vehicles are marked in accordance with TM 55-604.

m. Prepare, process, pack, and mark dangerous material and prepare certificates (AR 220-10).

n. Designate "to accompany troops" (TAT) equipment and mark (AR 220-10).

o. Issue chemical warfare agent protection and treatment set to each individual (AR 220-10).

p. Process turn-in of emergency medical kits.

q. Pack guidon, colors, and distinctive flags.

r. Issue containers for packing and shipping of personal property.

s. Make arrangements for appointment of custodian of privately owned vehicles (POV's) and personal effects who will have authority to make disposition after movement of unit. Reference DD Form 1299 (Application for Shipment of and/or Storage of Personal Property) (AR 55-71); and power-of-attorney, as applicable.

t. Prepare vehicles for movement (AR 220-10).

u. Figure R-1 contains an organizational chart of a suggested unit movement staff organization.

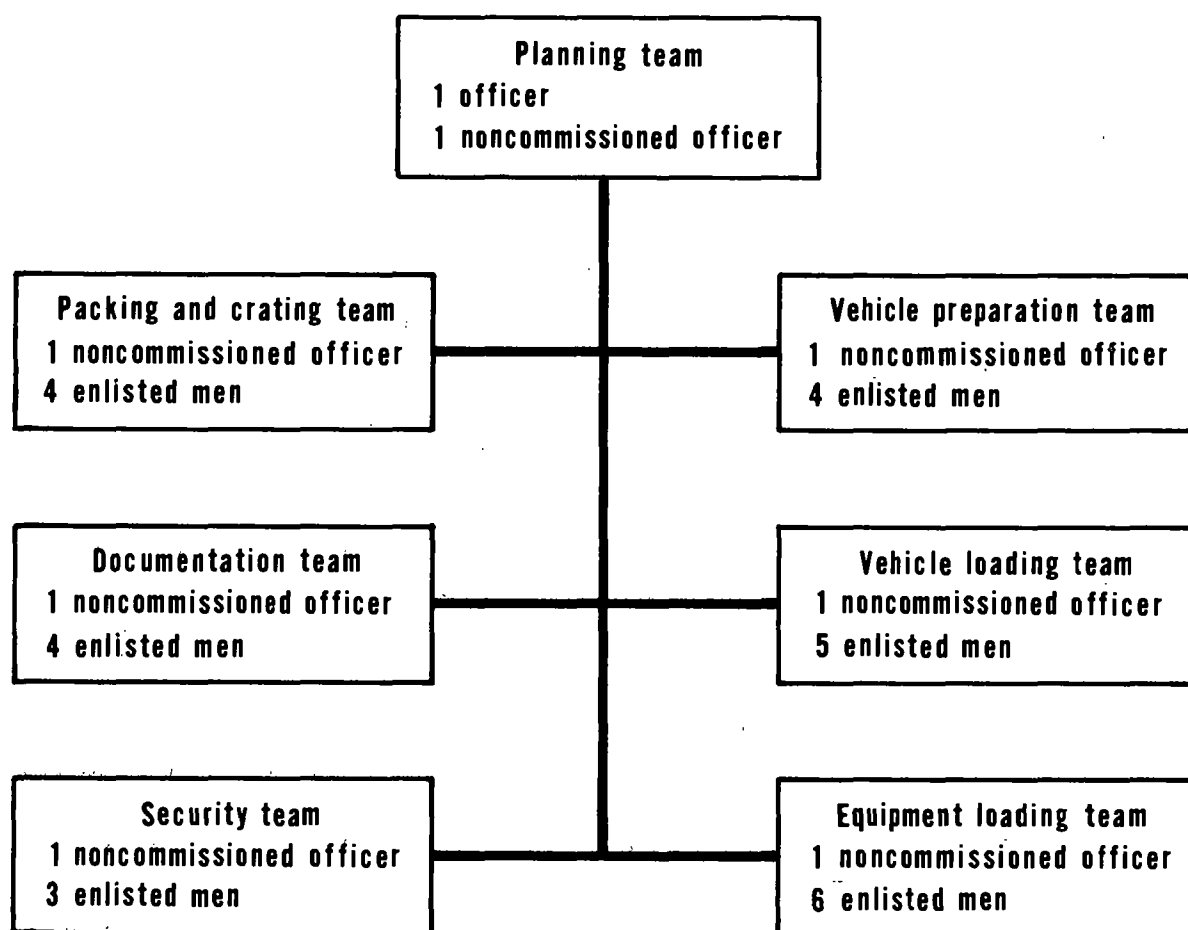


Figure R-1. Suggested unit movement staff organization.

ANNEX I TO APPENDIX R
SUGGESTED PREPARATION FOR OVERSEA MOVEMENT (POM)
(UNITS) PERSONNEL CHECKLIST

UNIT _____	NAME _____	GRADE _____
<i>Action needed</i>	<i>Completed</i>	
		GENERAL
_____	_____	Attended personal affairs orientation on _____.
_____	_____	Attended legal affairs orientation on _____.
		DA FORM 20 (ENLISTED QUALIFICATION RECORD) (AR 600-200)
_____	_____	Classification interview conducted on _____.
_____	_____	Item 2, Grade.
_____	_____	Item 3, Date of rank.
_____	_____	Item 11, Ordered to active duty (AD).
_____	_____	Item 16, Basic active service date, basic pay en- try grade, basic enlisted service date.
_____	_____	Item 16, Last permanent change of station.
_____	_____	Item 16, Foreign service availability code.
_____	_____	Item 17, Physical status.
_____	_____	Item 22, Military occupational specialty.
_____	_____	Item 24, Aptitude tests.
_____	_____	Item 25, Other tests.
_____	_____	Item 28, ATP 21-114.
_____	_____	Battle indoctrination or waiver.
_____	_____	Code of conduct.
_____	_____	Geneva Conventions.
_____	_____	Chemical, biological, and radiological.
_____	_____	Course B, military justice.
_____	_____	Item 29, Weapons qualification.
_____	_____	Item 33, Appointments and reductions.
_____	_____	Item 34, Civilian occupation.
_____	_____	Item 46, Submission of duplicate copy of DA Form 20 and changes.
_____	_____	New DA Form 20 needed.
		DA FORM 66 (OFFICER QUALIFICATION RECORD) (AR 611-103)
_____	_____	Classification interview conducted on _____.
_____	_____	Item 2, Grade.
_____	_____	Item 6, Date of current tour.
_____	_____	Item 12, Appointments.
_____	_____	Item 14, Physical status.
_____	_____	Item 18, Review of assignments.
_____	_____	Item 23, Weapons qualification.
_____	_____	Item 28, Civilian occupation.
_____	_____	Item 33, Battle indoctrination or waiver.

<i>Action needed</i>	<i>Completed</i>	
_____	_____	Code of conduct.
_____	_____	Geneva Conventions.
_____	_____	Chemical, biological, and radiological.
_____	_____	Military justice.
_____	_____	New DA Form 66 needed.
_____	_____	201 FILE, MILITARY PERSONNEL RECORDS JACKET (MPRJ), US ARMY (AR 640-10)
_____	_____	DD Form 220 (Active Duty Report) (AR 135-210).
_____	_____	DD FORM 53 (Notification of Entry into Active Military Service) (AR 601-49).
_____	_____	DA Form 41 (Record of Emergency Data) (AR 600-10).
_____	_____	VA Form 29-8286 (Servicemen's Group Life Insurance Election) (AR 608-2).
_____	_____	DD Form 98 (Armed Forces Security Questionnaire) (AR 604-10).
_____	_____	DD Form 398 (Statement of Personal History) (AR 604-5).
_____	_____	DD Form 4 (Enlistment Contract—Armed Forces of the United States), or DD Form 47, (Record of Induction).
_____	_____	DA Form 873 (Certificate of Clearance and/or Security Determination Under EO 10450) (AR 605-5).
_____	_____	DD Form 369 (Police Record Check) (AR 606-15).
_____	_____	DA Form 1294 (Record of Personnel with Special Qualifications) (AR 600-200).
_____	_____	DA Form 2431 (Personnel Suspense Card) (DA Pam 600-8).
_____	_____	Current weapons qualification order in 201 file.
_____	_____	201 file needs complete screening.
_____	_____	UNITED STATES STRATEGIC ARMY FORCES (STRAF) FOLDER
_____	_____	DA Form 613 (Checklist for Preparation of Replacements for Oversea Movement).
_____	_____	DD Form 528 (Geneva Conventions Identification Card).
_____	_____	Personal Affairs Checklist (Local SOP).
_____	_____	DD Form 1175 (Change of Address and Directory Record).
_____	_____	DA Form 2142 (Request for Pay Action).
_____	_____	DD Form 137 (Application for Basic Allowance for Quarters for Members With Dependents).
_____	_____	DD Form 1101 (Household Goods Storage Information).
_____	_____	DD Form 1299 (Application for Shipment and/or Storage of Personal Property).
_____	_____	DD Form 884 (Application for Transportation for Dependents).

<i>Action needed</i>	<i>Completed</i>	
_____	_____	<i>FINANCE (AR 37-104-2 AND AR 37-106-1)</i>
_____	_____	DA Form 3060-R (Class X Allotment Authorization/Discontinuance).
_____	_____	DA Form 1341A (Allotment Authorization).
_____	_____	DA Form 1314C (Allotment Change/Correction).
_____	_____	DA Form 1341S (Allotment Discontinuance).
_____	_____	DA Form 1341-1 (Allotment Document (for Other than US Savings Bonds)).
_____	_____	DA Form 1341-2 (Allotment Document (for US Savings Bonds)).
_____	_____	<i>TRAINING</i>
_____	_____	Individual Training Record.
_____	_____	<i>LEGAL ASSISTANCE</i>
_____	_____	Power of Attorney.
_____	_____	Will.
_____	_____	<i>IMMUNIZATIONS (AR 40-562)</i>
_____	_____	PHS Form 731 (International Certificate of Vaccination).
_____	_____	<i>IDENTIFICATION CARDS, TAGS, AND BADGES (AR 606-5)</i>
_____	_____	DD Form 2A (Armed Forces Identification Card (Active Duty)).
_____	_____	DD Form 1173 (Uniformed Services Identification and Privilege Card).
_____	_____	Identification Tags.

ANNEX II TO APPENDIX R
SUGGESTED UNIT TRAINING CHECKLIST

1. Does the unit have on hand all applicable publications?
2. Does the unit have standing operating procedures (SOP's) for training and field operations?
3. What percent of unit personnel are preparation of replacements for oversea movement (POR) qualified?
 - a. Battle indoctrination _____.
 - b. Qualification in arms _____.
 - c. Chemical, biological, and nuclear _____.
 - d. Survival, evasion, and escape (SEE) _____.
 - e. Code of conduct _____.
 - f. Geneva Conventions _____.
4. What percent of personnel are physical combat proficiency test (PCPT) qualified?
5. Have all unit personnel qualified/familiarized with primary weapon and have crew members of crew-served weapons familiarized within the last 12 months?
6. When did unit conduct last field training exercise/Army training test (FTX/ATT)?
7. How many unit personnel have had 6 months active duty?
8. How many unit personnel are military occupational specialty (MOS) qualified?

MOS AUTHORIZED ON HAND QUALIFIED



APPENDIX S

ROUTE RECONNAISSANCE

S-1. General

To perform its mission satisfactorily, a reconnaissance party should be provided with the equipment necessary to perform its mission and be thoroughly aware of the reason for the reconnaissance; it should also receive specific instructions on the type information to be gathered. The following guidelines are offered for making a reconnaissance of the route.

S-2. Equipment

The equipment required will vary with the type of information desired. Where practicable, reconnaissance parties should be provided with the following:

a. Transportation. Light vehicles which can be maneuvered easily, can operate at relatively high speeds, and offer minimum interference to existing traffic are most suitable. Sufficient transport should be provided to accommodate the reconnaissance party and its equipment. The use of several vehicles will facilitate inspection of detours, alternate routes, bypasses, etc. If available, aircraft may be employed to supplement the reconnaissance party.

b. Communication. Existing common user communications facilities such as telephone and teletype may be used in transmitting reconnaissance data. Communication by radio may also be desirable. When aircraft are used, radio frequencies between aircraft and ground vehicles must be prearranged; panels and signals may also be used by personnel on the ground to communicate with aircraft.

c. Maps and Aerial Photographs. Maps, particularly road maps, are needed for orientation and guidance. They also provide a convenient form on which to record road data. Recent aerial photographs are a valuable supplement to maps, particularly when available maps are not up to date.

d. Special Equipment. The following equipment is useful in making a route reconnaissance:

- (1) Vehicle mileage recorder for tabulating distance between points.
- (2) Stopwatch or sweep-second-hand watch for use in timing traffic past particular points and in estimating traffic flow.
- (3) Tally counters or other recording devices for estimating traffic volume.
- (4) Tapes or calibrated rods for measuring bridges, fords, overpasses, road width, etc.
- (5) Sketching equipment for preparing sketches or overlays.
- (6) Camera for photographing hazardous or other positions of interest to planners (preferably Polaroid type).
- (7) Binoculars.
- (8) Tool kit for hasty correction of damaged or fallen signs.

S-3. Information to be Furnished Reconnaissance Personnel

Instructions for reconnaissance should include—

a. Basic Information.

- (1) Routes to be reconnoitered.
- (2) Extent and nature of information to be obtained.
- (3) Brief statement of the situation as it affects the reconnaissance.
- (4) Personnel, transport, and equipment available for the task.
- (5) Type of report desired; time and place to submit report.

b. More Specific Information Which May Be Required by a Particular Reconnaissance.

- (1) Tactical or logistical requirements directly affecting traffic over routes to include size and type of units to be moved, destination, etc.
- (2) Maximum loads expected; maximum overall lengths, widths, and heights of vehicles when loaded; and minimum turning requirements.

(3) Weights of heaviest units to pass over the route, destination of loads, outsize loads, etc.

(4) Types and methods of march to be employed; that is, individual dispatch, convoy, or other.

(5) Requirements as to location of supply activities, service support facilities, terminals, staging areas, etc.

(6) Required route signing and marking.

(7) Other specific questions as to information to be obtained.

S-4. Information to be Obtained by Traffic Reconnaissance

Following are types of information which may be obtained by traffic reconnaissance. The current situation will dictate which of these items are required from reconnaissance parties.

a. General Route Information.

(1) Location and nature of major routes.

(2) Location and character of major junctions and access or egress routes to the major routes being reconnoitered.

(3) Location and character of major roadblocks, contaminated areas, mines, and other potential hazards.

(4) Location and characteristics of bypass routes or detours around congested areas, fords, and roadblocks.

(5) Location and characteristics of routes that provide maximum protection from hostile ground or air attacks.

(6) Distance between all important points.

(7) Types of surface and condition of roadways and shoulders.

(8) Width of roadway and/or number of traffic lanes available in each section of roadway.

(9) Limiting physical features (clearance heights and widths and maximum allowable loads) of structures such as bridges, overpasses, and culverts.

(10) Maximum gradients of steep hills.

(11) Road and bridge construction required and in progress.

b. Dump, Terminal, and Other Facilities.

(1) The location of support activities, ser-

ving stations, and other supply facilities, particular attention being given to their access from the major routes.

(2) Evacuation and hospital facilities.

(3) Location and characteristics of turn-around facilities, offroad halting places, bivouacs, etc.

c. Traffic Information.

(1) Traffic density and traffic flow existing or anticipated and by which an estimate as to military vehicle and tonnage capability of the route may be made.

(2) Variations in traffic flow during particular time periods over sections of routes. This information may sometimes be obtained from civil authorities or by devices which automatically count traffic flow in relation to time.

(3) Location of sensitive points of high traffic flow, potential bottlenecks, crossroad interference, intersections needing guards, defiles needing two-way regulation, sections of routes needing patrols, etc.

(4) Existing or needed signal communication facilities.

(5) Existing or needed traffic control devices including signs, route markers, etc.

(6) Traffic control techniques employed or deemed necessary.

d. Recommendations and Conclusions.

(1) A general estimate of engineer work needed.

(2) Recommendations as to traffic circulation, possible routings, etc.

(3) Estimate as to officer and noncommissioned personnel required for traffic control and highway regulation purposes.

(4) Summary of findings, recommendations, and conclusions.

S-5. Limitations

Traffic reconnaissance should be for the specific purpose of gaining information on which headquarters will base the traffic plan. For that reason reconnaissance parties should not normally be assigned tasks which would delay or otherwise handicap them in their primary assignment.

APPENDIX T

COMMUNICATIONS TRANSMISSION SECURITY PRECAUTIONS

The following radio operator guidelines are offered for the observation of security practices and precautions which will tend to minimize the possibility of security breaches during radio transmission. Many of these guidelines are equally applicable to wire communications and should be observed by switchboard operators and by telephone operators and users.

- a.* Radio silence should not be violated.
- b.* Transmission should not take place in a directed net without permission.
- c.* There should be no unnecessary transmissions, such as excessive testing.
- d.* Transmitting operators should not send too fast for the receiving operators to receive.
- e.* Excessive transmitting power should not be used.
- f.* Transmitters should not be tuned with the antennas connected.
- g.* Excessive time should not be consumed in tuning, changing frequency, or adjusting equipment.
- h.* All messages should be transmitted by the most secure means available, consistent with the established procedures.
- i.* Personnel transmitting clear-text messages by voice radio must use prescribed radiotelephone procedures.
- j.* The wording and content of all messages to be transmitted should be preplanned, using pre-

scribed authentication systems and eliminating all unnecessary transmissions.

k. Before answering inquiries received by radio, the operator should carefully consider his reply before transmission. This reduces the possibility of a slip of the tongue that may disclose information that may prove beneficial to the enemy.

l. A high standard of net discipline is necessary and must be practiced at all times.

m. Message books should be used in preparing messages for transmission. This practice, in addition to aiding and improving communications security, will provide a record of messages for later reference.

n. Communications channels, both radio and telephone, will be used for the transmission of official information only. Operators are strictly prohibited from using these facilities for personal conversations.

o. Only authorized codes will be used. Locally devised systems can easily be broken by the enemy.

p. Transmissions will be as brief as practicable.

q. At no time will rank be mentioned in the transmission of messages. Actual names should not be used.

r. The prescribed phonetic alphabet will be used.

s. Above all, the ability of the enemy to intercept and use for intelligence purposes any messages transmitted must not be underestimated.



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APPENDIX U

HINTS FOR VEHICLE OPERATIONS IN DIFFICULT TERRAIN

U-1. General Operational Hints

a. Deflate tires as recommended before the vehicle enters soft mud, sand, or rocky terrain.

b. Some areas such as water-soaked mud, clay, or silt areas may require the placement of logs, brush, gravel, wire netting, or other suitable material to provide support for the passage of vehicles over that area. When corduroy material is used, it should be crossed carefully, in a low gear and all-wheel drive, and without stopping.

c. Engage front wheel drive for operation in soft sand or mud, and usually on rocky terrain; low range is generally necessary also on rocky terrain.

U-2. Starting, Steering, and Stopping Hints

a. When starting in soft sand, select a low gear range (generally for 1/4-ton to 2 1/2-ton vehicles, second gear in low range is most effective). Start slowly and smoothly.

b. Avoid unnecessary shifting of gears, especially in soft or poor traction areas.

c. Avoid areas or patches of soft sand when possible. When it cannot be avoided, increase speed before entering the soft sand area to gain momentum and maintain traction.

d. In areas of soft, uncrusted sand and in rocky terrain, follow in the tracks of preceding vehicles whenever possible.

e. When operating a vehicle over a sand dune, approach the dune as squarely as possible; avoid angling ascents.

f. Use brakes sparingly to stop in soft sand; permit the vehicle to roll to a halt.

g. When stopping or halting on sand or other similar soft surface, stop or halt on a downhill slope, no matter how slight, to gain a starting advantage.

h. Straddle undergrowth, but avoid straddling

rocks or boulders which might damage the under parts of a vehicle.

U-3. Hints on Vehicle Care

a. Reinflate tires immediately upon leaving sand or rocky areas where deflation was required.

b. Keep valve caps on all valves; carry spare valve caps; check tire inflation.

c. Inspect tires frequently; remove stones or other foreign matter imbedded in tires, and rocks from between dual tires.

d. Check engine temperature and oil pressure gages frequently.

e. Inspect fan belt, water pump, radiator, and radiator hoses frequently; check closely for leaks and fan belt tension.

f. If engine overheats (temperature gage registers over 200 °), halt and—

(1) Check for loose or broken fan belt; adjust or replace if necessary.

(2) Check level of coolant in radiator; add water if required.

(3) Check radiator exterior; remove any accumulated debris or material that may be interfering with proper radiator cooling.

(4) Face vehicle into wind and run the motor at a fast idle. If overheating persists, stop engine to prevent engine damage.

g. If a fuel line vapor lock occurs during operation, pump the accelerator a few times or choke the engine slightly.

h. If a vapor lock causes difficulty in starting, place a wet cloth around the fuel pump and the fuel filter to condense the vapor.

i. Check the air cleaner more frequently than usual.

j. Wipe and clean filler nozzles and the spouts of gasoline containers before refueling.

k. When water has to be added to the battery,

use distilled water if possible; avoid desert water, which usually has a high alkaline content.

l. Inspect body bolts, springs, spring mountings, and accessories more frequently than usual for evidence of looseness or damage resulting from abnormal shock and vibration caused by operating over rough terrain.

m. Change oil more frequently than normal during operations in desert or rough terrain. A drop of oil from the dipstick may be rubbed between the fingers to determine the presence of a foreign or gritty substance.

n. Wipe oil can spouts clean before adding engine oil; clean away accumulation of sand or dirt from the oil filler hole.

o. After operating in sandy or dusty terrain, remove the air filter and the crankcase oil filler cap; clean and dip in engine oil, allowing excess oil to drain off before replacing.

p. Inspect and clean constant-velocity joints frequently.

U-4. Hints on Freeing Vehicle Stuck in Sand or Mud

a. Most military vehicles have sufficient power in low gear to pull out of sand or mud *provided the wheels gain traction*. If a vehicle is stuck, or is about to become stuck, use the lowest gear (forward or reverse) for the pulling out effort. Use all-wheel drive if the vehicle is so equipped. If necessary, use brush, logs, wire netting, gravel, rocks, or other available materials under the wheels to gain traction.

b. In some instances where forward progress is stopped, it may be possible to back up slightly and then start forward with sufficient power to overcome the resistance of sand and mud; selecting a new forward course may offer a traction advantage.

c. The clearing away of sand or mud from in front of all of the wheels of a stuck truck will often allow the truck to pull free and regain forward progress.

d. Use the vehicle winch or a tow vehicle if it becomes evident that continued operation of a vehicle under its own power will only cause it to sink deeper in the sand or mud.

e. If a trailed load has swung to one side or doubled up on the towing vehicle, disengage the trailed load, maneuver the towing vehicle into the line of direction of the trailed load, reengage it, and move off in the new direction.

U-5. General Precautions for Off-the-Road or Difficult Driving Terrain

a. Guard against mechanical troubles by making all proper vehicle inspections and by driving as recommended.

b. Gasoline consumption is high in sandy or rocky terrain; use gasoline economically in such operations.

c. In areas in which water is in short supply, use it sparingly.

d. For further discussion of operational difficulties consult TM 21-305, the manual for the vehicle being operated, or pertinent publications listed in appendix A of this manual.

APPENDIX V

HINTS FOR VEHICLE OPERATIONS IN ADVERSE WEATHER

The following suggestions and information are provided to assist drivers and mechanics in operating and maintaining motor vehicles in winter weather. Additional information including winterization techniques, arctic techniques, engine enclosures, auxiliary starters, and cold temperature expedient devices is contained in FM 31-70, FM 31-71, TM 9-207, and TM 9-8662.

a. Effects of Low Temperatures on Certain Materials.

(1) *Rubber.* Becomes stiff and brittle; tires develop flattened-out areas when parked for several hours and have little resiliency until warmed up and softened during operations. Radiator and heater hoses may crack and break if handled roughly.

(2) *Water.* Freezes in low temperatures and expands. In restricted areas (vehicle radiators or engine blocks), expansion exerts tremendous power and may split radiators or crack blocks.

(3) *Canvas.* Becomes stiff and brittle when subjected to low temperatures; is difficult to fold, unfold, or use without damaging through breaking of fibers.

(4) *Glass.* Conducts heat poorly and may crack or shatter if subjected to a sudden increase in temperature. Do not apply sudden intense heat to clear or deice vehicle windows or windshields.

(5) *Gasoline.* Becomes difficult to vaporize; burning in combustion chambers of an engine is incomplete, resulting in unburned gasoline diluting and contaminating engine oils.

(6) *Engine oils.* Become thick and flow poorly resulting in poor lubrication of engine until warmed up by normal operation. Thickened oils also create a drag on the engine, making starting more difficult.

(7) *Greases.* Become hard and thick and lose lubrication properties until warmed up by normal operations.

Caution. Dry, cold weather creates excessive amounts of static electricity in clothing and in

liquids being transported. Extreme caution must be exercised when refueling vehicles to prevent fire and/or explosion caused by the discharge of such static electricity. Static electricity should be dissipated by grounding vehicles or fuel containers prior to refueling; personnel should ground themselves by touching the metal of a vehicle or fuel container—*away from vapor openings.*

b. Driving. The basic rules for driving in cold weather include all the rules that apply to driving in normal conditions but because of the additional hazards created by snow and ice, the necessity to adhere to these rules is greatly increased. All drivers must be thoroughly trained in the techniques of winter operation before engaging in cold weather operations.

c. Visibility. Good all-around visibility is a *must* for safe cold weather driving.

(1) Before operations, remove all ice, snow, and fog from all windows. During operations, keep all windows and mirrors clear at all times.

(2) Use defrosters to keep the windshield free of ice, sleet, snow, and fog.

(3) Keep inside and outside rear view mirrors clean and properly adjusted.

(4) Use headlights during snowstorms and any periods of reduced visibility, in accordance with local standing operating procedures and the tactical situation.

(5) Increase gaps between vehicles when exhaust gases cause ice fogs.

(6) Use a guide when backing the vehicle or where assistance is required in picking a trail in deep snow.

d. Traction for Driving or Stopping.

(1) Use chains in deep snow or on ice; they increase traction for both starts and stops.

(2) Use brush and burlap under the wheels to aid in moving through deep snow; use sand and gravel for passage over icy areas.

(3) Apply brakes using a "feathering" or "pumping" action; jamming the brakes will lock the wheels and cause skidding.

(4) Keep pioneer tools readily available on vehicles to use for snow removal or cutting of brush, etc.

e. Additional Hints for Safe Vehicle Operations in Cold Weather.

(1) Never leave the engine of a vehicle running when sleeping in the cab or passenger compartment of vehicle; *exhaust gases are deadly*.

(2) Always adjust vehicle speeds to the road conditions.

(3) Maintain proper gap between vehicles and compensate for road conditions (stopping distances on ice and snow are greatly increased).

(4) Slow down *before* going around a curve.

(5) Make turns and stops slowly and steadily.

(6) Keep vehicle cab windows open slightly when the heater is in use.

(7) When halting, do not block the roadway. Pull onto road shoulder but only after it is checked; snow may conceal ditches, culverts, or other obstructions.

(8) Do not overcrowd the vehicle cab; this restricts the driver's ability to operate his vehicle properly and safely.

(9) At halts, check vehicles to insure that they are troublefree and in good operating condition.

(10) Keep lights, mirrors, and windows free of snow, sleet, frost, or fog.

(11) Make sure that vehicle operator and maintenance personnel are properly trained and thoroughly familiar with the operation and maintenance of vehicles in extreme cold (TM 9-207).

f. Preparing for Operations.

(1) Always carry a shovel on the vehicle; the removal of snow or ice from in front of or behind the wheels may enable a stuck vehicle to clear itself under its own power.

(2) Wear gloves. Avoid touching subzero chilled metal with the bare hands. If tools must be used, tape or wrap the handles.

(3) Move vehicles slowly and carefully after they have been standing in the cold for a long time.

(4) Distribute loads as evenly as possible to

equalize traction on wheels; reduce loads proportionately in severe cold weather.

(5) When appropriate or permissible, block up the rear end of the engine hood to allow warm air from the engine to flow over the windshield; this will aid in keeping it clear.

(6) Shield the lower half of the radiator with prepared winterfronts, shutters, cardboard, or other available material to aid in maintaining normal operating temperatures.

(7) Use grass, straw or other insulating materials on the cab floor (and bed of troop carrying vehicles) to help keep feet warm if the vehicle has no heater or the heater becomes inoperative.

(8) Check tire pressures prior to operation; increase tire pressures approximately 10 percent for severe cold weather operations.

(9) Use auxiliary type heaters to prewarm engines before starting when temperatures go below -25°F .

(10) Warm up engines to operating temperatures before moving or accelerating.

(11) Observe all instruments, gages, and warning lights during warmup to avoid engine damage.

g. Maintenance and Servicing.

(1) Change engine oil at more frequent intervals to reduce the possibility of contamination.

(2) Keep the crankcase ventilator clear to avoid condensation of moisture and gasoline vapors in the crankcase.

(3) Keep fuel tanks and containers as full as possible to prevent moisture condensing and freezing in fuel lines; keep fuel tank and container caps (covers) closed tightly to prevent entry of snow, ice, and moisture.

(4) Specially prepared gasoline "driers," or a mixture of 1 quart of alcohol to each 40 gallons of gasoline will be used as an antifreeze to prevent freezing of water deposits in fuel tanks, lines, etc.

(5) Filter gasoline through a chamois skin to remove water and decontaminants.

(6) Drain fuel filters and sediment bowls frequently.

(7) Use proper antifreeze and do not mix types; allow for heat expansion of coolant when filling radiators.

(8) Check and clear relief vents on transfer cases, transmissions, and axles frequently.

(9) Make complete changes of engine and gear oils when required; avoid mixing various types or grades.

(10) Clear snow, slush, and ice from wheels, suspension, and brake systems immediately after stopping to prevent freezing up and damage.

(11) Park vehicles on brush, logs, sand, or other dry surfaces to prevent tires from freezing to the ground.

(12) Do not attempt to break free a vehicle frozen in place in a parking or halt area by using its own power to rock or jerk it loose. Use another vehicle to tow (or push) the frozen vehicle.

(13) Avoid using sharp or pointed tools to free tires frozen to the ground.

h. During Truck and Convoy Operations.

(1) Exercise care in cross-country operations; improper operation through or over brush, branches, stumps, and rocks may cause damage to radiators, lights, tires, and vehicle undercarriages.

(2) Recover vehicles which bog down in mushy ice or break through ice as quickly as possible to prevent freezing in.

(3) As required, provide each vehicle with—

(a) Driver's personal gear and field equipment.

(b) Vehicle maintenance tools.

(c) Operational rations for emergency use.

(d) Extra engine oil, gasoline, and anti-freeze.

(e) Tow and tire chains.

(f) Pioneer tools.

(g) Strip map.

(h) Fire starter.

(i) Highway flares or safety kits.

(4) Inspect brake lines frequently; accumulations of slush, ice, and snow should be removed to prevent line breakage.

(5) If uncertain about a difficult stretch of road, stop and look the situation over before proceeding.

Caution. A snow-covered road may conceal an icy road surface; be careful when driving on fresh snow.

(6) At a difficult piece of road or a snow drift, let the leading vehicle go through before driving more vehicles into the same spot. If the leading vehicle becomes stuck, it may be necessary to pull it out backwards.

(7) To drive through a difficult spot, a vehicle should always be previously shifted into low gear and then kept moving. Stopping to shift gears after reaching a bad spot may cause the wheels to spin and dig in and the vehicle to become bogged down.

(8) Rocking the vehicle forward and backward by rapidly shifting alternately between low and reverse may provide a long enough solid track for the vehicle to gain enough momentum to go through.

(9) When stopping on any slippery road, apply the brakes gently. A severe application may cause a bad skid. This is especially true on ice or light snow.

(10) Never depend on brakes when descending a slippery hill. Shift into a lower gear at the crest and use the engine for braking on the down slope.

(11) Chains serve a good purpose in snow or mud but are less effective on ice. A few shovelfuls of sand or earth scattered over an icy grade creates as much or more traction than chains.

(12) On slippery roads, never accelerate quickly as this may cause one wheel to spin while the other remains idle and may result in a skid.

(13) To overcome a skid, turn the front wheels in the direction of the skid; the momentum of the vehicle will carry the vehicle in a straight line parallel to the original path, and should result in regaining control.

(14) Avoid ruts that may cause a skid or bruise a tire. When halting for some time, chock the wheels if possible; leave the handbrake released. This prevents the brakes from becoming frozen in a locked position.

(15) Before parking a vehicle and if conditions permit, apply the brakes rather severely several times. This heats the brake shoes and drums and helps to dissipate any water which may have accumulated within the drums.

(16) When crossing on ice over frozen streams, keep the cab doors open. You may need to leave in a hurry if the ice proves to be thin.

(17) Know and use proper signals. This is most important in winter driving when roads are treacherous and visibility is poor.

(18) At times when sleet or snow may be melting on the roads, it may remain frozen on bridges. Keep this in mind when operating under unfavorable conditions.

(19) When driving in a heavy snow storm, in

rain, in fog, or under other poor visibility conditions, use the lights to warn the drivers of other vehicles of your position. Keep lights on regular driving beam, not on high beam.

(20) If visibility becomes zero, stop and wait for better conditions.

(21) Should the radiator antifreeze be lost and a new supply is unavailable, adding light lubricating oil or fuel oil to the radiator liquid will get the vehicle back to its base or on to the next point at which antifreeze may be obtained. (Flush radiator thoroughly before replacing coolant).

APPENDIX W

STANAG 2113, DESTRUCTION OF MILITARY TECHNICAL EQUIPMENT

DETAILS OF AGREEMENT (DofA)

DESTRUCTION OF MILITARY TECHNICAL EQUIPMENT

Annex: A (DofA). Priorities for Destruction of Parts of Military
Technical Equipment.

AGREEMENT

1. *The NATO Army Forces Agree:*
 - a. That it is essential to destroy to the maximum degree possible military technical equipment, abandoned in wartime operations, to prevent its eventual repair and use by the enemy.
 - b. To follow the principles and priorities, set forth in this agreement, in the destruction of their own equipment, when required.

PRINCIPLES AND PRIORITIES

2. *Detailed Methods.* Detailed methods of destroying individual items of equipment are to be included in the applicable technical publications, user handbooks and drill manuals.
3. *Means of Destruction.* Nations are to provide for the means of destruction for their own equipment.
4. *Degree of Damage.*
 - a. *General.* Methods of destruction should achieve such damage to equipment and essential spare parts that it will not be possible to restore the equipment to a usable condition in the combat zone either by repair or cannibalization.
 - b. *Classified Equipment.* Classified equipment must be destroyed in such degree as to prevent duplication by, or revealing means of operation or function, whenever possible, to the enemy.
 - c. *Associated Classified Documents.* Any classified documents, notes, instructions, or other written material pertaining to function, operation, maintenance, or employment, including drawings or part lists, must be destroyed in a manner to render them useless to the enemy.
5. *Priorities for Destruction.*
 - a. Priority must always be given to the destruction of classified equipment and associated documents.
 - b. When lack of time and/or stores prevents complete destruction of equipment, priority is to be given to the destruction of essential parts, and the same parts are to be destroyed on all like equipment.
 - c. A guide to priorities for destruction of parts for various groups of equipment is contained in Annex A (DofA) to this STANAG.

6. *Equipment Installed in Vehicles.* Equipment installed in vehicles should be destroyed in accordance with the priorities for the equipment itself, taking into account the relative importance of the installed equipment and the vehicle itself.

7. *Spare Parts.* The same priority, for destruction of component parts of a major item necessary to render that item inoperable, must be given to the destruction of similar components in spare parts storage areas.

8. *Cryptographic Equipment and Material.* The detailed destruction procedure to be followed in order to insure the rapid and effective destruction of all types of cryptographic equipment and material is to be specified in instructions issued by the appropriate communication security authority.

9. *Authorization.* The authority for ordering the destruction of equipment is to be vested in the divisional and higher commanders, who may delegate authority to subordinate commanders when the situation requires.

10. *Reporting.* The reporting of the destruction of equipment is to be done through command channels.

IMPLEMENTATION OF THE AGREEMENT

11. This STANAG will be considered to have been implemented when the priorities indicated therein have been incorporated in national documents detailing the method required for destroying the equipment concerned.

ANNEX A (DofA) TO
STANAG 2113PRIORITIES FOR DESTRUCTION OF PARTS OF MILITARY
TECHNICAL EQUIPMENT

EQUIPMENT	PRIORITY	PARTS
1. VEHICLES (INCLUDING TANKS AND ENGINEER EQUIPMENT	1	Carburetor/fuel pump/injector distributor.
	2	Engine block and cooling system.
	3	Tires/tracks and suspensions.
	4	Mechanical or hydraulic systems (where applicable).
	5	Differentials.
	6	Frame.
2. GUNS	1	Breech, breech mechanism, and spares.
	2	Recoil mechanism.
	3	Tube.
	4	Sighting and fire control equipment (priority 1 for antiaircraft guns).
3. SMALL ARMS	1	Breech mechanism.
	2	Barrel.
	3	Sighting equipment (including infrared).
	4	Mounts.
4. OPTICAL EQUIPMENT	1	Optical parts.
	2	Mechanical components.
5. RADIO	1	Transmitter (oscillators and frequency generators).
	2	Receiver.
	3	Remote control units or switchboard(exchanges) and operating terminals.
	4	Power supply and/or generator set.
	5	Antennae.
	6	Tuning heads.
6. RADAR AND OTHER ELECTRONIC EQUIPMENT	1	Frequency determining components, records, operating instructions, which are subject to security regulations, and identification material (identification friend or foe (IFF)).

EQUIPMENT	PRIORITY	PARTS
	2	Antennae and associated components such as radiators, reflectors and optics.
	3	Transmission lines and wave guides.
	4	Transmitter high voltage components.
	5	Control consoles, displays, plotting boards.
	6	Cable systems.
	7	Automatic devices.
	8	Other control panels and generators.
	9	Carriage and tires.
7. GUIDED MISSILE SYSTEMS	1	Battery control centers.
	2	Missile guidance equipment (including homing systems).
	3	Launchers including control circuits.
	4	Missiles.
	5	Measuring and test equipment.
	6	Generators and cable systems.
8. AIRCRAFT AND SURVEILLANCE DRONES	1	Identification (IFF) equipment, other classified electronic equipment, publications and documents pertaining thereto, and other materiel as defined by the national government concerned.
	2	Installed armament (use subpriorities for group 2, guns, or group 3, small arms, as appropriate).
	3	Engine Assembly (priorities for destruction of magnetos, carburetors, compressors, turbines and other engine sub-assemblies to be determined by national governments, depending on type of aircraft involved and time available for destruction).
	4	Airframe/control surfaces/

EQUIPMENT	PRIORITY	PARTS
		undercarriage (priorities for destruction of propellers, hub-rotor blades, gear boxes, drive shafts, transmissions, and other subassemblies (not already destroyed in priority 3) to be determined by national governments, depending on type of aircraft involved and time available for destruction).
	5	Instruments, radios, and electronic equipment (not included in priority 1).
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By Order of the Secretary of the Army:

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